



**HEAD OFFICE**  
**MP URJA VIKAS NIGAM LTD.,**  
**URJA BHAVAN, MAIN ROAD # 2, NEAR BUS-STOP # 5, BHOPAL – 462016**  
PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122, E-Mail: [cmpuvn@bsnl.in](mailto:cmpuvn@bsnl.in)  
Website: [www.mprenewable.nic.in](http://www.mprenewable.nic.in)

Ref No. MPUVN / RFP – Notice / UICA - SPV- SADP - Hybrid Power / 2009-10 / 1658

Bhopal, Dt.31/08/2009

**REQUEST FOR PROPOSAL**

M P Urja Vikas Nigam Ltd. (MPUVN), Bhopal is Nodal Agency of Ministry of New & Renewable Energy (MNRE), Govt. of India, and Govt. of MP request MNRE accredited Indian Manufacturers of Solar Photovoltaic Modules or their Authorized State-level Dealer or Authorized Representative for Madhya Pradesh for submitting “Proposals for Standardization of Rates for Design, Supply, Installation, & Commissioning with 2 years Warranty, and 3/5 years Post-warranty Comprehensive Maintenance Contract (CMC) of SPV / SPV-AC Hybrid Power Systems (SPVACHS)” for approximate requirement of 100 power-packs of various capacities for UPS applications (50-2500VA) all over the State aggregating to 900 KVA capacity.

The original participant in this RFP should be Indian Manufacturing Company of Mono-crystalline Solar Photovoltaic (SPV) Modules of capacity 75 Watt or more with national / international qualification certification accredited by MNRE. Participant should also have sufficient experience in successful installation, commissioning, and maintenance of SPV Power-packs(s)

The RFP Notice and RFP Document can be viewed & downloaded from our Website – [www.mprenewable.nic.in](http://www.mprenewable.nic.in). Intimation of Downloading should be sent by E-mail to [cmprenewable@bsnl.in](mailto:cmprenewable@bsnl.in) with RFP Document Reference No. MPUVN/RFP/EE-SD/SPV-SADP/III/2009-10/BHOPAL in Subject, and Cc to [shrikantbdeshmukh@gmail.com](mailto:shrikantbdeshmukh@gmail.com), & [sanjaykumarbajpai@msn.com](mailto:sanjaykumarbajpai@msn.com). The Participants shall have to deposit Rs.1000/- as Document Fee, and Token Earnest Money Deposit (Token EMD) of Rs.20000/- along with Proposal.

Pre-bid Meeting with aspiring Participants shall be held from 12 PM on 16/09/2009 as mentioned in RFP Document(s) at Conference Hall of Nigam. Offers in the Prescribed RFP Document(s) shall be accepted up to 12.00 AM on 24/09/2009, and will be opened on 24/09/2009 at 12.30 PM.

Managing Director, MPUVN reserves all rights to cancel or modify this RFP without assigning any reason thereof.

**MANAGING DIRECTOR**

**HEAD OFFICE**  
**MP URJA VIKAS NIGAM LTD.,**  
**URJA BHAVAN, MAIN ROAD # 2, NEAR BUS-STOP # 5, BHOPAL – 462016**  
PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122, E-Mail: cmpuvn@bsnl.in, Website: www.mprenewable.nic.in

**DOCUMENT**

**IMPORTANT-** Document is downloadable from website in PDF format only. If any Participant feel that space for any requisite information at any particular page / section of document is insufficient, may attach information in same format placed next to concerned page writing page / section / clause / Para No., on the page attached there-of.

**Request for Proposal**



<b><u>Reference No.</u></b>	<b><u>MPUVN / RFP / EE-SD / SPV-SADP/ 2008-09 / III</u></b>
<b><u>Title:</u></b>	<b>Request for Proposal (RFP) for Standardization of Rates for Design, Supply, Installation, &amp; Commissioning of approximately 100 SPV-AC Hybrid Systems / Power-packs (SPVACHS) of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty, &amp; 3/5 years Mandatory Comprehensive Maintenance Contract (CMC).</b>

## INDEX OF CONTENTS

**Request for Proposal (RFP) for Standardization of Rates for Design, Supply, Installation, & Commissioning of approximately 100 SPV-AC Hybrid Systems / Power-packs (SPVACHS) of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty, & 3/5 years Mandatory Comprehensive Maintenance Contract (CMC) -**

S. No.	Description	Page No.	
		From	To
1.	Eligibility Criteria for Participants / Checklist	4	5
2.	Section – I – Invitation for Proposals	6	7
3.	Section – II – Terms & Conditions of RFP	8	11
4.	Section – III – Scope of Work	12	19
5.	Section – IV – Specifications	20	22
6.	Section – V – General Information of RFP / Participant / Undertaking / Declaration	23	25
7.	Section – VI – Specific Terms & Conditions of RFP	26	30
8.	Section – VII – Terms & Conditions of Payments	31	31
9.	Appendix – I – Relevant Services Carried out in the Last Five Years	32	32
10.	Appendix – II – Composition of Teams & Tasks Assigned	33	33
11.	Appendix – III – Format for CV	34	34
12.	Appendix – IV – Format for Submission of Conditionality	35	35
13.	Appendix – V (A) – Format for Submission of Financial Proposal	36	36
14.	Appendix – V (B) – Schedule of Price(s)	37	40
15.	Appendix – V (C) – Breakup of Price(s)	41	41
16.	Appendix – VI – Acknowledgement of RFP Document	42	42
17.	Appendix – VII – Format for Warranty / CMC	41	45
18.	Appendix – VIII – Format of Bank Guarantee for Security Deposit	46	46
19.	Appendix – IX – Format for Agreement	47	47
20.	Appendix – X - Format for Covering Letter submitting Proposal	48	48

## **ELIGIBILITY CRITERIA FOR PARTICIPANT / CHECK-LIST**

**Request for Proposal (RFP) for Standardization of Rates for Design, Supply, Installation, & Commissioning of approximately 100 SPV - AC Hybrid Systems / Power-packs (SPVACHS) of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty, & 3/5 years Mandatory Comprehensive Maintenance Contract (CMC) -**

**The following conditions are to be fulfilled to be eligible to participate in this RFP:**

1. Only MNRE accredited Indian Manufacturers of Mono-crystalline Solar Photovoltaic (SPV) Modules of capacity 75 Watt or more with MNRE accredited national / international qualification certification & having experience in successful installation, commissioning, and maintenance of SPV Power-packs(s) having adequate facilities for Testing of the SPV systems, or their Authorized State-level Dealer or Authorized Representative for Madhya Pradesh (hereinafter called "Participant") would be allowed to participate in this RFP.
2. The pre-qualification will be done on the basis of Detailed Proposal & Document(s) submitted by Participant enclosing the list and pictures of the manufacturing and testing facilities and an undertaking that if the details provided by the Participant are in deviation with the provisions of the scheme, it will call for disqualification. Team of MPUVN Officials (from Field / Head Office) may visit the Works for verification, if required.
3. Participant shall have to give a declaration to the effect that they fulfill the terms and conditions of eligibility and that they have submitted the required details along with the support technical information and photographs to MNRE and, that a similar declaration was given at the time of testing of the sample by National / International Test Center Authorized or Accredited by MNRE/BIS/BEE/MOP\*. If the declaration were found to be false, the eligibility would be considered null and void.
4. **Technical performance of module/system(s) duly supported by Latest Valid Test Report(s) issued by National / International Test Centre(s) of accredited by MNRE / BIS / BEE / MOP\*\* not earlier than year 2005 only will be eligible.**
5. Companies / Participants / Individuals which are engaged only in the assembly of Solar PV systems with above-mentioned bought out items will not be eligible for supply of the systems under this scheme.
6. Individual procurement of components and their subsequent integration for constituting a complete SPV system is not allowed under proposed RFP.

\*MNRE – Ministry of New & Renewable Energy, Govt. of India, BIS – Bureau of Indian Standards, Govt. of India, BEE – Bureau of Energy Efficiency, Govt. of India, MOP – Ministry of Power, Govt. of India. \*\* As applicable

### **IMPORTANT NOTE:**

1. All aspiring Participant(s) shall ensure attending Pre-bid Meeting scheduled to be held at Conference Hall of MPUVN, Urja-Bhavan, Shivaji Nagar from 12 PM on 16/09/2009 as per details here forth by them self(s) or their Technically Qualified Authorized Representative / State level Dealer in MP. Participants are required to bring along technical details of System(s) & Device(s) of SPVACHS / Power-pack(s) installed by them self for discussions during Pre-bid meeting as per "Section-III-Scope of Work" of this document.
2. Participant(s) are requested to Fill & Bring along Technical Information of Systems Proposed in RFP in the Format given at Page-18-19.

**CHECK-LIST**

(To be duly filled &amp; signed by Authorized Signatory With Company Seal affixed. Copy to be kept in Envelope-I)

S. No.	Item / Description	Detail	Page No. of Proposal	Envelope No.
1	RFP Document Fee - Rs.1000/-*			01
2	Earnest Money Deposit – Rs.20000/-*			01
3	Manufacturer / Authorized Representative / State level Dealer of Mono-crystalline SPV Module(s) Proposed*			02
4	Undertaking & Declaration as per Page -24-25 of RFP Doc.*			02
5	Test Report(s) of SPV Module(s) proposed*			02
6	Test Report(s) of Battery(ies) proposed			02
7	Test Report(s) of Power Conditioning Unit (PCU) Panel comprising of Charge Controller, Inverter, Voltage Stabilizer, & System Electronics proposed			02
8	Test Report(s) of Distribution Panel (DP) & Switchgear proposed			02
9	CV of Key Personnel(s)* (Appendix-III)			02
10	Past Experience (Appendix-I & II)*			02
11	Work Plan (CPM/PERT)*			02
12	Income Tax Clearance Certificate, (if applicable)			02
13	Technical Information Duly Filled on RFP Page No. 18-19*			02
14	Deviation, if any (Appendix-IV)*			02
15	Financial Proposal duly filled in (Appendix - V(A), V(B-1), V(B-2), V(B-3), V(B-4), V(C))*			03
16**				
17				
18				
19				
20				

\* Mandatory Information

\*\* Any other Information Participant(s) wish to specify.

**This is to undertake that I / We have carefully read & understood entire RFP Document, & Notification(s) thereafter and have signed each page of RFP Document, and All Enclosure(s) affixing Company Seal as Token of Acceptance.**

(Signature of Authorized Signatory with Company Seal)

## SECTION – I

### INVITATION FOR PROPOSALS

**Request for Proposal (RFP) for Standardization of Rates for Design, Supply, Installation, & Commissioning of approximately 100 SPV-AC Hybrid Systems / Power-packs (SPVACHS) of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty, & 3/5 years Mandatory Comprehensive Maintenance Contract (CMC) -**

#### **LETTER OF INVITATION:**

**Dear Sir,**

Solar Photovoltaic Power-packs based on Solar Photo-voltaic (SPV) Technology are meant for Stand-alone Applications as per Policy & Guideline of Ministry of New & Renewable Energy Sources (MNRE) of Government of India. Since, SPV Technology is cost intensive therefore its hybridization with available AC Power also is an attempt towards optimizing cost of the System. These Systems are basically meant for those areas where power availability is uncertain and limited to few hours (2-6). SPV-AC Hybrid Systems / (SPVACHS) / Power Packs of adequate capacity (50 to 2500 VA) would enable Un-interrupted Power Supply (UPS) for 12-24 hours for utilities with SPV Power-packs with / without Electrical Back-up. Computers in Offices / Educational Institutions / Business Establishments / Banks, Refrigerators & Deep freezers in Medical Stores / Hospitals / Clinics / Health Centers / Hotels / Restaurants, Irrigation and Households need such UPS for varied applications. Technical and Financial Proposals are thus invited by M P Urja Vikas Nigam Ltd., Bhopal (MPUVN) for Standardization of Rates, Design, Supply, Installation & Commissioning, and Comprehensive Maintenance of approximately 100 Solar Photovoltaic / AC Hybrid Power-packs of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications to the extent of 900 KVA (approximate cumulative capacity) in Madhya Pradesh up to December 2010.

2. This RFP document contains Terms of Reference covering the Scope of Work, General & Specific Terms and Conditions for the Proposed Assignment, Supplementary Information and Instructions to Participants for Formulation and Submission of Proposals.

3. Managing Director, MPUVN reserves the right to alter any or all conditions and terms specified in this RFP document. The terms and conditions governing the proposed assignment are not exhaustive and additional conditions, as may be mutually accepted, will be included in the Work Order / Contract Agreement. These conditions are also subject to modifications or deletion and are listed herein for clearly indicating specific deviations, if any considered absolutely necessary.

4. Meeting of all the Participants will be convened before the closing date for submission of RFP(s) i.e. on **16/09/2009** as mentioned in this document. The purpose of this meeting will be to clarify the requirements as envisaged by the MPUVN and to enable the MPUVN to issue clarifications and reply to the queries of the Participants.

5. The Participants may make suitable suggestions in their offer, in addition to the specified Scope of Work or Methodology, to meet the objectives of the proposed assignment in the space provided in this document, and also communicate the same via Mail / Fax / E-mail on or before **16/09/2009** to enable MPUVN to take necessary action.

6. The Participants requiring any clarifications on the contents of the RFP Document must notify the MPUVN in writing on or before **16/09/2009**. Any request or clarification in writing, by Email or Fax must be sent to the

MPUVN's address. The MPUVN will respond by Email or Fax to such requests and copies of the response will be sent to all Participants.

7. At any time before the submission of proposals, the MPUVN may, for any reason, whether at its own initiative or in response to a clarification requested by any / all of the Participant(s) and carry out amendment(s) in the Document / Scope of Work / Specification(s). The amendment will be notified in writing or by Email or Fax to all Participants and will be binding on them. The MPUVN may at its discretion extend the deadline for the submission of proposals. The contractual obligations shall be as per the terms and conditions in the Letter of Intent / Work Order issued to the successful Participant at a later stage, which may be same or modification of what is being mentioned in this document.

8. It may be noted that the costs of preparing the proposal and of negotiating the contract, including visits to the MPUVN's office and elsewhere, are not reimbursable as a direct cost of the assignment; and MPUVN is not bound to accept any / all of the proposals submitted.

9. The Institutions allied with MNRE / BIS / BEE / MOP, MPUVN and Beneficiary's Office(s) can be approached for relevant reports / data, if any required, and available with them. An overview of the existing Status of Norms / Practices / Codes applicable in the context of the assignment has been given in the RFP Document. Any other available information to the possible extent will be provided to the successful Participant to facilitate the Assignment as and when needed during the course of execution of the Assignment. The Participants may make their own investigations and collect additional data for preparation of the RFP.

10. The Selected Participant is expected to commence the Assignment on the Time-schedule specified in the RFP Document as per Terms of Reference covering the Scope of Work, General & Specific Terms and Conditions mentioned herewith.

**IMPORTANT NOTE:**

1. All aspiring Participant(s) shall ensure attending Pre-bid Meeting scheduled to be held at Conference Hall of MPUVN, Urja-Bhavan, Shivaji Nagar from 12 PM on 16/09/2009 as per details here forth by them self(s) or their Technically Qualified Authorized Representative / State level Dealer in MP. Participants are required to bring along technical details of System(s) & Device(s) of SPVACHS / Power-pack(s) installed by them self for discussions during Pre-bid meeting as per "Section-III-Scope of Work" of this document.
2. Participant(s) are requested to Fill & Bring along Technical Information of Systems Proposed in RFP in the Format given at Page-18-19.

**We would appreciate if you could kindly confirm your willingness for submitting the proposal,**

**Yours faithfully,**

**Enclosed: Section-II to VII**

**31<sup>st</sup> August 2009, Bhopal**

**Shrikant Deshmukh**  
**Executive Engineer,**  
**Head Office, MP Urja Vikas Nigam Ltd.,**  
**Urja Bhavan, Main Road No.2,**  
**Near Bus-stop No.5, BHOPAL – 462016**  
**PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122**  
**E-Mail: cmpuvm@bsnl.in, Website: www.mprenewable.nic.in**

## **SECTION – II** **TERMS & CONDITIONS OF RFP**

**Request for Proposal (RFP) for Standardization of Rates for Design, Supply, Installation, & Commissioning of approximately 100 SPV-AC Hybrid Systems / Power-packs (SPVACHS) of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty, & 3/5 years Mandatory Comprehensive Maintenance Contract (CMC) -**

### **INSTRUCTIONS TO PARTICIPANTS FOR FORMULATION AND SUBMISSION OF PROPOSAL:**

**The Participants are expected to read & examine all terms and instructions included in this document very carefully. Failure in providing all requested / requisite information will be entirely on part of Participants and may result in rejection of their proposal.**

#### **1. PREPARATION OF TECHNICAL PROPOSAL:**

**Technical Proposal shall include particulars of the following:**

1. Brief about the Participant and Chronology of Experience on assignments of similar nature during last 5 years. Format is given at **Appendix - I**.
2. Description of the methodology (work plan), which Participants propose to execute, illustrated with bar charts of activities, Critical Path Method (CPM) or Program Evaluation Review Technique (PERT) type graphics.
3. The Number & Composition of the Professional teams; the tasks assigned and time schedules. Format is given at **Appendix - II**.
4. Recent Curriculum Vitae (CV) signed by the proposed professional staff or by the designated Authorized Signatory of the Participant. Police verification of the Field Staff may be needed, if required before commencing the work at site(s). Key information should be as per format given at **Appendix - III**.
5. The Conditionality / deviations and variations and exceptions to the RFP stipulations, if any, may be submitted as per format given at **Appendix - IV**.
6. All Pages of RFP Document must be returned duly signed with Seal on each page by Authorized Signatory as Token of Acceptance. All Pages of the Documents must be completely filled (wherever required), duly signed with Seal, failing which the RFP may not be considered.

#### **2. PREPARATION OF FINANCIAL PROPOSAL:**

1. The Financial Proposal shall cover all costs for this assignment as per Scope of Work given in this Document. The Financial Proposal must take into account all the Tax & Insurance liabilities etc.
2. Rates quoted must be Firm and Fixed for Design, Engineering, Supply, Installation and Commissioning, 2 years Warranty, and 3/5 years Post Warranty Comprehensive Maintenance Contract (CMC) all inclusive of Site Visits, Packaging, Forwarding, Spare parts, Insurance and Taxes & Duties FOR Site(s) mentioned in the Document. No price escalation will be allowed. It shall be essential to quote rates including CMC or else the Proposal shall not be accepted.
3. Latest valid Income Tax Clearance Certificate must be attached, if applicable.

4. Rates once accepted shall be valid up to **31.12.2010**. No deviation in the Terms and Conditions, Specifications of Material, Inspection clause, Terms & Conditions for Payments etc., will be accepted.
5. Participants should note that, if more assignments (to the extent of twice of what mentioned in this document) of exactly same specifications are required during validity period then Participant would be bound to furnish Proportionate (2/3% of Order-value) Earnest Money Deposit for the same after receiving Intimation / Letter of Intent and before Placement of Work order (s) by Nigam as per Terms & Conditions of this document.
6. The Financial Proposal should be prepared considering above, and using, but not limiting to the Formats given at **Appendix – V (A & B)**.

### **3. EVALUATION CRITERIA AND QUALIFICATION OF PROPOSAL:**

1. The Proposals submitted by the Participants against this RFP will be evaluated by the Evaluation Committee constituted by MPUVN incorporating MPUVN / Beneficiary's Officials / Representatives as per the Evaluation Criteria given below and each Proposal will be attributed a Score.
2. Financial Proposals will be opened only of those Participants who obtain minimum points (50). The contract will however, be awarded to the Participants who quote the Lowest Consolidated Rates.  
**The points are to be awarded to various items are as follows:**

1. Approach towards Assignment	5
2. Methodology for Implementation	5
3. System Design & Engineering	20
4. Technical Eligibility	25
5. Relevant Experience	10
6. Qualifications / background of the Key-staff	10
7. Monitoring / Follow-up / Maintenance / Service during Warranty / CMC	25
<b><u>Total:</u></b>	<b><u>100</u></b>

### **4. GENERAL INSTRUCTIONS:**

1. Proposals that are incomplete in any respect or those that are not consistent with the requirements as specified in this Request for Proposal (RFP) or those that do not adhere to Formats, wherever specified may be considered non-responsive and may be liable for rejection.
2. All correspondence and communication should be done in writing. Fax / E-mail communications / queries are acceptable subject to Written Confirmation.
3. No change in, or supplementary information to a Proposal shall be accepted once submitted. However, MPUVN reserve the right to seek additional information from the Participants, if found necessary, during the course of evaluation / processing of the Proposal. Non-submission, incomplete submission or delayed submission of such additional information or clarifications sought by MPUVN may be a ground for rejecting the Proposal.
4. This RFP document contains Terms of Reference / Specifications covering the Scope of Work, General & Specific Terms and Conditions for Work Order / Contract Agreement for Proposed Assignment, Supplementary Information and Instructions to Participants for Formulation and Submission of Proposals.

5. MPUVN reserves the right to alter any or all conditions and terms specified in this RFP document. The terms and conditions governing the proposed assignment are not exhaustive and additional conditions, as may be mutually accepted, will be included in the Work Order / Contract Agreement. These conditions are also subject to modifications or deletion and are listed herein for careful examination & study by Participant for clearly indicating specific deviations, if any considered absolutely necessary.
6. MPUVN reserve the right to reject any or all of the Proposals submitted in response to this Request for Proposal at any stage without assigning any reasons whatsoever.
7. MPUVN reserve the right to change any or all of the provisions of the RFP Document. Such changes would be intimated to all Participants.

**5. ACKNOWLEDGEMENT OF RFP DOCUMENT:**

1. The Participants who are interested to participate must fill in, sign and return the “Acknowledgement of RFP” as per format given at **Appendix – VI** so as to reach MPUVN at Postal / E-mail Address as mentioned earlier / later in this Document, on or before **16/09/2009**.
2. The Authorized Signatory, as mentioned in the Proposal document, would be authorized to represent the Participant in its dealings with MPUVN. In case the Participant wishes to change the Authorized Signatory from the one identified at the RFP Stage, the Participant would be required to furnish a fresh Power of Attorney in the name of the new Signatory.
3. The Proposal (and any additional information requested subsequently) shall bear the initials of the Authorized Signatory and Stamp of the Participant’s entity thereof on each page of the Proposal.
4. The Participant(s) shall be responsible for all the costs associated with the preparation of the Proposal. MPUVN shall not be responsible in any way for such costs, regardless of the conduct or outcome of this process.

**6. EARNEST MONEY DEPOSIT (EMD):**

1. Earnest Money Deposit (EMD) of Rs.0.20Lakh (Token EMD) in the form of **Crossed Bank Draft of any Nationalized/Scheduled Bank in favor of M.P.Urja Vikas Nigam Ltd. payable at Bhopal or FDR of any Nationalized/Scheduled Bank A/C of participants valid up to 31.12.2010 of duly discharged in favor of M. P. Urja Vikas Nigam, Bhopal**, shall be placed in Part-I / Envelope-I, Clearly Bearing “EMD / RFP Notice - Document Reference No. / Date of Opening / Name & Address of the Participant”. The Proposals without EMD or with EMD in any other form shall be rejected. The EMD will be refunded to the unsuccessful Participants only after completion of processes & signing of Agreement with successful Participant under this RFP. No interest shall be payable on EMD what so ever the case be.
2. Participants should note that, Work orders will be issued as per requirement(s) of the Beneficiary (ies) with Nigam to the extent of twice of what mentioned in this document but of exactly same specifications during validity period. Participant would be bound to deposit Proportionate (2/3% of Order-value) Earnest Money Deposit, (as applicable) for the same after receiving Intimation from Nigam.

**7. FORFEITURE OF EMD:**

**If the Participant Fails to Submit Proposal in requisite Format or Execute Contract Agreement within the Stipulated Time-limits specified in the Letter of Intent, or Fails to Commence or Complete the Work as per Terms & Conditions within the Stipulated Time-limits in the Work-order the Applicable Earnest Money Deposit shall be forfeited by the MPUVN.**

**8. PRE-PROPOSAL MEETING:**

1. A Meeting of all the Participants will be convened before the closing date for submission of RFP(s) i.e. on **16/09/2009**. The purpose of this meeting will be to clarify the requirements as envisaged by the MPUVN and to enable the MPUVN to issue clarifications and reply to the queries of the Participants.

2. The Participants are free to make suggestions in their offer, in addition to the specified Scope of Work or Methodology, to meet the objectives of the proposed assignment in the space provided in this document, and also communicate the same via Mail / Fax / E-mail on or before **16/09/2009** to enable MPUVN to take necessary action.
3. Participants requiring any clarifications on the contents of the RFP Document must notify the MPUVN in writing on or before **16/09/2009**. Any request or clarification in writing, by Email or Fax must be sent to the MPUVN's address. The MPUVN will respond by Email or Fax to such requests and copies of the response will be sent to all Participants.
4. **All aspiring Participant(s) shall ensure attending Pre-bid Meeting scheduled to be held at Conference Hall of MPUVN, Urja-Bhavan, Shivaji Nagar from 12 PM on 16/09/2009 as per details here forth by them self(s) or their Technically Qualified Authorized Representative / State level Dealer in MP. Participants are required to bring along technical details of System(s) & Device(s) of SPVACHS / Power-pack(s) installed by them self for discussions during Pre-bid meeting as per "Section-III-Scope of Work" of this document.**
5. **Participant(s) are requested to Fill & Bring along Technical Information of Systems Proposed in RFP in the Format given at Page-18-19.**

**9. SUBMISSION OF PROPOSAL:**

1. The Participants must submit one 'Original' and 'Two Copies' of the Technical proposal, all kept together shall be placed in Part-II / Envelope-II Clearly Bearing "Technical Proposal / RFP Notice - Document Reference No. / Date of Opening / Name & Address of the Participant", which must be firmly sealed. The covering letter to be submitted by the Participant along with Technical Proposal should be as per format given at **Appendix- X**
2. The Financial proposal must be placed in Part-III / Envelope-III Clearly Bearing "Financial Proposal / RFP Notice - Document Reference No. / Date of Opening / Name & Address of the Participant", which must be firmly sealed.
3. These Three Envelope(s) containing "EMD", "Technical Proposal", and "Financial Proposal" must then be placed in a Single Outer Envelope, which must be firmly sealed and addressed to Shri Shrikant Deshmukh, Executive Engineer, Head Office, MP Urja Vikas Nigam Ltd., Urja Bhavan, Main Road No.2, Near Bus stop No.5, BHOPAL – 462016 PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122. This Envelope should clearly bear "RFP Notice - Document Reference No. / Date of Opening / Name & Address of the Participant", and "DO NOT OPEN EXCEPT IN PRESENCE OF THE EVALUATION COMMITTEE".
4. DD / Money Receipt of Document Fee (when Document is downloaded from website), and any other Document other than prescribed, but which Participant intends to submit should also be kept loose in this Single Outer Envelope along with above Three Envelopes.
5. The Participant(s) may submit their Proposals by Registered Post / Courier or the Proposal in Person, so as to reach MPUVN by the time and date stipulated by MPUVN.
6. MPUVN shall not be responsible for any delay in submission of the Proposals. Any Proposal received by MPUVN after the deadline may not be accepted by MPUVN.

## **SECTION – III** **SCOPE OF WORK**

**Request for Proposal (RFP) for Standardization of Rates for Design, Supply, Installation, & Commissioning of approximately 100 SPV-AC Hybrid Systems / Power-packs (SPVACHS) of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty, & 3/5 years Mandatory Comprehensive Maintenance Contract (CMC) -**

### **1. Brief Description of Work:**

M P Urja Vikas Nigam Ltd., Bhopal is intending to execute the Work(s) of Design & engineering, Supply, Installation & Commissioning, and Comprehensive Maintenance of approximately 100 Solar Photovoltaic / AC Hybrid Power-packs of various capacities to the extent of 900 KVA (approximate cumulative capacity) in Madhya Pradesh up to 31.12.2010 for providing Un- interrupted Power Supply (UPS) for Computers in Offices / Educational Institutions / Business Establishments / Banks, Refrigerators & Deep freezers in Medical Stores / Hospitals / Clinics / Health Centers / Hotels / Restaurants, Irrigation and Households who need such UPS of varied capacities for varied applications.

### **3. Estimated / Required Capacities of SPV / AC HYBRID UPS / SYSTEMS (SPVPP/SPVACHS):**

#### **1. Rated load (AC) –**

A. Category – I - 50 to 1000 VA at increasing capacity 50 VA, Single Phase - 240 VAC

- i. With no AC charging.
- ii. With maximum 2 hours AC charging.
- iii. With maximum 4 hours AC charging.
- iv. With maximum 6 hours AC charging.

B. Category – II - 1100 to 2500 VA at increasing capacity 100 VA, Single Phase 240 VAC

- i. With no AC charging.
- ii. With maximum 2 hours AC charging.
- iii. With maximum 4 hours AC charging.
- iv. With maximum 6 hours AC charging.

2. Duty cycle – 24 hours

3. Back up hours – 12 hours

### **4. DETAILS OF WORK:**

Participants are required to workout / carryout all calculations, systems sizing for all requisite capacity(s) as per minimum technical criterions mentioned in following tables as below:

1. Participant should consider availability of electricity for battery charging (from Sunset to Dawn only) for optimization of SPV Array size.
2. Power Conditioning Unit (PCU): Charge controller, Inverter, Voltage-stabilizer, and Distribution Panel along with necessary Displays, Indicators and Alarms shall be Part of Power Conditioning Unit (PCU).
3. Participant(s) are required to submit Technical & Financial Proposals for All Categories & Sub-categories failing which their Proposals shall be rejected.

### **IMPORTANT NOTE:**

3. All aspiring Participant(s) shall ensure attending Pre-bid Meeting scheduled to be held at Conference Hall of MPUVN, Urja-Bhavan, Shivaji Nagar from 12 PM on 16/09/2009 as per details here forth by them self(s) or their Technically Qualified Authorized Representative / State level Dealer in MP. Participants are required to bring along technical details of System(s) & Device(s) of SPVACHS / Power-pack(s) installed by them self for discussions during Pre-bid meeting as per "Section-III-Scope of Work" of this document.
4. Participant(s) are requested to Fill & Bring along Technical Information of Systems Proposed in RFP in the Format given at Page-18-19.

**4.1 CATEGORY - I - SPVACHS - Less than 1 KVA Capacity**

**1. Battery Bank:**

1	Load (VA)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
2	Nominal Battery Voltage	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Battery Bank Voltage:	12	12	12	12	24	24	24	24	48	48	48	48	48	96	96	96	96	120	120	120
4	No. of Batteries	6	6	6	6	12	12	12	12	24	24	24	24	24	48	48	48	48	60	60	60
5	Autonomy (Hrs)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
6	Maximum DOD of Battery Bank (%)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
7	Average DOD of Battery Bank -%	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
8	Battery's Columbic Efficiency (%)	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
9	Line / Junction / Switching Losses (%)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
10	Inverter Efficiency (%)	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
11	Total De-rating	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
12	Battery Bank Capacity- VA Hr	1579	3158	4737	6316	7895	9474	11053	12632	14211	15789	17368	18947	20526	22105	23684	25263	26842	28421	30000	31579
13	Ah Rating of C-10 Battery	132	263	395	526	657	789	921	1053	1185	1317	1449	1581	1713	1845	1977	2109	2241	2373	2505	2637

**2. Inverter:**

1	Load (VA)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
2	Factor of Safety:	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
3	Input Voltage:	12	12	12	12	24	24	24	24	48	48	48	48	48	96	96	96	96	120	120	120
4	Max. Input Current (DC):	5	10	16	21	13	16	18	21	12	13	14	16	17	9	10	10	11	9	10	10
5	Output (1Φ-VAC):	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
6	Surge Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	Rated capacity:	69	139	208	278	347	417	486	556	625	694	764	833	903	972	1042	1111	1181	1250	1319	1389
8	No Load Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Overload Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	Indicators / Displays / Alarms:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**3. SPV Array:**

1	Load (VA)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
2	Daily Power Requirement:	1579	3158	4737	6316	7895	9474	11053	12632	14211	15789	17368	18947	20526	22105	23684	25263	26842	28421	30000	31579
3	Effective SPV Array Peak Hours:	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
4	Total SPV De-rating::	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
5	Array Capacity (SPV only):	487	975	1462	1949	2437	2924	3411	3899	4386	4873	5360	5848	6335	6823	7310	7797	8285	8772	9259	9747
6	Module Voltage (Voc)	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
7	Minimum Cell Efficiency	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
8	Nominal Array Voltage	16.44	16.44	16.44	16.44	32.88	32.88	32.88	32.88	65.76	65.76	65.76	65.76	65.76	131.52	131.52	131.52	131.52	164.4	164.4	164.4
9	Array Current:	30	59	89	119	74	89	104	119	67	74	82	89	96	52	56	59	63	53	56	59
10	Array Ampacity Factor:	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
11	Charge Controller Factor:	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
12	Charge Controller Rating:	39	77	116	155	96	116	135	155	87	96	107	116	125	68	73	77	82	69	73	77
13	C-Rating	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14	AC Charging Hours:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	AC Input Watts:	99	194	293	391	487	585	684	783	881	973	1078	1171	1263	1368	1473	1552	1657	1743	1841	1940
16	SPV Capacity with AC Charging	388	781	1169	1558	1950	2339	2727	3116	3505	3900	4282	4677	5072	5455	5837	6245	6628	7029	7418	7807
17	AC Charging Hours:	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4
18	AC Input Watts:	197	388	585	783	973	1171	1368	1565	1762	1946	2157	2341	3156	2736	2946	3104	3314	3485	3683	3880
19	SPV Capacity with AC Charging	290	587	877	1166	1464	1753	2043	2334	2624	2927	3203	3507	3179	4087	4364	4693	4971	5287	5576	5867
20	AC Charging Hours:	6	6	6	6	6	6	6	6	6	6	6	6	7	6	6	6	6	6	6	6
21	AC Input Watts:	296	582	878	1174	1460	1756	2052	2348	2644	2920	3235	3512	4419	4103	4419	4656	4971	5228	5524	5820
22	SPV Capacity with AC Charging	191	393	584	775	977	1168	1359	1551	1742	1953	2125	2336	1916	2720	2891	3141	3314	3544	3735	3927

\* As per Para-6 below

**4.2 CATEGORY - II - SPVACHS - More than 1 but less 10 KVA Capacity****1. Battery Bank:**

1	Load (VA)	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
2	Nominal Battery Voltage	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Battery Bank Voltage:	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
4	No. of Batteries	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
5	Autonomy (Hrs)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
6	Maximum DOD of Battery Bank (%)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
7	Average DOD of Battery Bank (%)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
8	Battery's Columbic Efficiency (%)	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
9	Line / Junction / Switching Losses (%)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
10	Inverter Efficiency (%)	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
11	Total De-rating	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
12	Battery Bank Capacity- VA Hr	34737	37895	41053	44211	47368	50526	53684	56842	60000	63158	66316	69474	72632	75789	78947
13	Ah Rating of C-10 Battery	145	158	171	184	197	211	224	237	250	263	276	289	303	316	329

**2. Inverter:**

1	Load (VA)	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
2	Factor of Safety:	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
3	Input Voltage:	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
4	Max. Input Current (DC):	6	6	7	7	8	8	9	9	10	10	11	11	12	13	13
5	Output (1Φ-VAC):	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
6	Surge Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	Rated capacity:	1528	1667	1806	1944	2083	2222	2361	2500	2639	2778	2917	3056	3194	3333	3472
8	No Load Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Overload Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	Indicators / Displays / Alarms:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**3. SPV Array:**

1	Load (VA)	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
2	Daily Power Requirement:	34737	37895	41053	44211	47368	50526	53684	56842	60000	63158	66316	69474	72632	75789	78947
3	Effective SPV Array Peak Hours:	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
4	Total SPV De-rating::	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
5	Array Capacity (SPV only):	10721	11696	12671	13645	14620	15594	16569	17544	18519	19493	20468	21443	22417	23392	24366
6	Module Voltage (Voc)	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
7	Minimum Cell Efficiency	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
8	Nominal Array Voltage	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8	328.8
9	Array Current:	33	36	39	41	44	47	50	53	56	59	62	65	68	71	74
10	Array Ampacity Factor:	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
11	Charge Controller Factor:	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
12	Charge Controller Rating:	43	47	51	53	57	61	65	69	73	77	81	85	88	92	96
13	C-Rating	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14	AC Charging Hours:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	AC Input Watts:	2170	2367	2565	2696	2893	3091	3288	3485	3683	3880	4077	4274	4472	4669	4866
16	SPV Capacity with AC Charging	8551	9329	10106	10949	11727	12503	13281	14059	14836	15613	16391	17169	17945	18723	19500
17	AC Charging Hours:	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
18	AC Input Watts:	4340	4735	5129	5392	5787	6181	6576	6971	7365	7760	8154	8549	8943	9338	9732
19	SPV Capacity with AC Charging	6381	6961	7542	8253	8833	9413	9993	10573	11154	11733	12314	12894	13474	14054	14634
20	AC Charging Hours:	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
21	AC Input Watts:	6510	7102	7694	8088	8680	9272	9864	10456	11048	11640	12231	12823	13415	14007	14599
22	SPV Capacity with AC Charging	4211	4594	4977	5557	5940	6322	6705	7088	7471	7853	8237	8620	9002	9385	9767

\* As per Para-6 below

**5. Solar Resource Data\* in KW. Hr / Sq. meter / Day is given below\*\* -**

Month	Jan.	Feb.	March.	Apr.	May	June
Global Solar Irradiance (KWh/m <sup>2</sup> /day)	4.50	5.50	6.20	7.00	7.10	6.60
Ambient Air Temperature (Deg Cel.)	21.30	26.10	31.30	36.60	40.10	39.10
Month	July	Aug.	Sep.	Oct.	Nov.	Dec.
Global Solar Irradiance (KWh/m <sup>2</sup> /day)	5.30	5.00	5.60	5.60	5.00	4.30
Ambient air Temperature (Deg Cel.)	32.70	30.60	31.10	32.10	27.70	22.50

\* At Bhopal

\*\* Participant may collect Data from own Source at the time of execution of work

**6.1 (A) SPV Array:**

- PV arrays should consist of PV modules connected in series and parallel to provide the required voltage and current thus making required wattage (as per page-13&14 of Document). The detail specification of the individual module is given below:
  - Cell Type: Mono crystalline silicon
  - Nominal power: More than 75Wp
  - Allowed Tolerance: Less than  $\leq \pm 2\%$
- The modules supplied should conform to IEC 61215 revised standard (2005) or equivalent / better BIS standard for the design, and also IEC 61730 - 2 or equivalent / better BIS standard for safety qualification requirements.
- All the types of modules proposed to be under RFP supplied should have qualification certifications and the copy of the same should be enclosed with the technical proposal.

**6.1 (B) De-rating Factors:**

- High Cell Temperature: 4%
- Module Series Parallel Mismatch Factor: 6%
- Dust Factor: 5% Peak Hour Correction Factor: 4%
- Charge Controller Efficiency Factor: 6%
- Correction for De-rating Factors: 1.25

**6.2 BATTERY BANK**

Battery bank comprising of batteries (as per page-13&14 of Document) conforming to IS 1651:1991 and following specification should be supplied, installed, and commissioned:

- Battery Type: Flooded Lead Acid
- Individual Cell Voltage: 2V rated at 25 °C
- Individual Cell Ah capacity: As per page-13&14 of Document (C /10 rate at 25 °C / Max. SPV Charging Current)
- Container: Hard Rubber
- The cell supplied should be from one single batch.

The following additional information on the batteries to be supplied:

- Overcharge Voltage
- Load disconnect voltage
- Modules reconnect voltage
- Float voltage
- Temperature compensation required for a proper operation
- Ampere hour efficiency / Watt hour efficiency

**6.3 POWER CONDITIONING UNIT**

- Power Conditioning Unit (PCU) shall comprise of Charge controller and MPPT, Inverter, Voltage-stabilizer, and Distribution Panel along with necessary Displays, Indicators and Alarms.
  - Category – I - 50 to 1000 VA at increasing capacity 50 VA, Single Phase - 240 VAC (As per page-13 of Document)
    - With no AC charging.
    - With maximum 2 hours AC charging after sunset.
    - With maximum 4 hours AC charging after sunset.
    - With maximum 6 hours AC charging after sunset.
  - Category – II - 1100 to 2500 VA at increasing capacity 100 VA, Single Phase 240 VAC (As per page-14 of Document)
    - With no AC charging.
    - With maximum 2 hours AC charging after sunset.
    - With maximum 4 hours AC charging after sunset.
    - With maximum 6 hours AC charging after sunset.

2. Duty cycle – 24 hours
3. Back up hours – 12 hours

### **6.3.1 CHARGE CONTROLLER & MPPT**

The charge controller and MPPT should preferably confirm to IEC 62109-3, IEC 62093 and IEC 62509 standards; or equivalent / better BIS standard for requisite AC / DC Inputs (as per page-13&14 of Document):

1. Operational Voltage Range: As per page-13&14 of Document
2. Series disconnect, PWM type
3. Controlling element: IGBTs
4. With required protections for Battery-bank

### **6.3.2 INVERTERS**

Inverter(s) should be as per page-13&14 of Document preferably from Indian Manufacture having qualification as per IEC 61683, IEC 62109-2 & IEC 62093 or equivalent / better BIS standard:

1. DC Input: As per page-13&14 of Document
2. Nominal Input DC Voltage: As per page-13&14 of Document
3. AC Output:
  - Output Voltage: 230V  $\pm$  3%, 1 $\emptyset$  systems
  - Output frequency: 50Hz
4. THD: Less than (<) 3 %

#### Other Features:

1. Peak Efficiency: More than 95%
2. Efficiency at 50% of Load: About 90%
3. Efficiency at 10% of Load: More than 85%
4. Load detection Threshold: Less than 3%
5. Surge Protection: 150% of the rated capacity for a period of 10 seconds
6. Ambient temperature: -5 to 60°C
7. Ambient Humidity: As per location of specific site (less than 95% non- condensing in general)
8. In-built Data-logger: to monitor following system parameters & events logs –
  - Date (DD/MM/YY)
  - Time (Hourly Starting from Midnight 00.00 Hrs)
  - SPV Power Supply Voltage – V DC
  - SPV Power Supply Current – Amp DC
  - SPV Power Charging Current – Amp DC
  - Battery-bank Voltage – V DC
  - AC Mains Voltage – V AC
  - AC Mains Charging Current – Amp DC
  - AC Power Consumed – Kw.Hr
  - System Output Voltage – V AC
  - System Output Current – Amp AC
  - Power Delivered – Kw.Hr

#### Protection:

1. AC Short circuit protection
2. Over-load protection
3. Under voltage & Over-voltage of battery and grid
4. Auto/Manual re-connects provision
5. Reverse polarity protection both for the PV array and Battery bank (DC).

### **6.3.3 VOLTAGE STABILISER**

1. Input voltage: 90 - 300 V AC
2. Input frequency: 50 Hz +/- 3%
3. Output voltage: Single phase AC 220/230 volt
4. Voltage regulation: 230 +/- 3%
5. Efficiency: 85%
6. Display: 3 Digit Input & Output

### **6.3.4 Indicators / Displays / Alarms**

1. Digital Display(s) of Input DC SPV Voltage, & Current, along with Energy Meter,
2. Separate LED Indication of SPV & AC Charging,

3. Digital Display(s) AC Input Voltage / Frequency,
4. Digital Display of Input AC Kw.Hr Meter (Daily/Cumulative),
5. Digital Battery Charging Current,
6. Battery Charge Level LED Indicator(s)- Low, Medium, High, Full
7. Digital Display(s) AC Output Voltage / Frequency,
8. Digital Display of Output AC Kw.Hr Meter (Daily/Cumulative),
9. Battery Low Alarm / cutoff
10. Overload Alarm / cutoff
11. System Cutoff Indicator
12. System Reset Button

### **6.3.5 STRUCTURES**

The structures should be designed for either fixed tilt with provision for seasonal adjustment OR Daily manual tracking three times a day along with seasonal adjustment provision to maximize the power generation -

1. The material should be rust proof and long lasting preferably steel or hot-dip galvanized iron.
2. Specialized structures compatible for on roof and on ground installation as well (Participant awarded with Work-order for specific location shall visit where the installation is to be done)
3. Easily able to with stand wind speeds upto150kmph

**6.3.6** - Junction Boxes, AC/ DC Distribution boxes as per IP 61 specifications

**6.3.7** - Installation and safety requirements should be as per IEC 62548 or equivalent / better BIS standard

**6.3.8** - Cables and other control components, such as cut-outs, fuses, arresters to suppress the high voltages and current surges-

1. Lightning arresters and proper grounding of array structures, junction boxes, inverters, Charge controllers, wherever necessary as per provisions, and standard practices as prescribed in the Indian National Electrical Code.
2. Necessary cabling and wiring to connect the plant with mains and loads
3. Energy meters at the mains in-pu of inverter and out-pu of inverters to monitor the net energy generated by the PV array.

### **IMPORTANT NOTE:**

1. All aspiring Participant(s) shall ensure attending Pre-bid Meeting scheduled to be held at Conference Hall of MPUVN, Urja-Bhavan, Shivaji Nagar from 12 PM on 16/09/2009 as per details here forth by them self(s) or their Technically Qualified Authorized Representative / State level Dealer in MP. Participants are required to bring along technical details of System(s) & Device(s) of SPVACHS / Power-pack(s) installed by them self for discussions during Pre-bid meeting as per "Section-III-Scope of Work" of this document.
2. Participant(s) are requested to Fill & Bring along Technical Information of Systems Proposed in RFP in the Format given at Page-18-19.

**7.1 Technical Information (Category- I - SPVACHS - Less than 1 KVA Capacity) -**

**1. Battery Bank:**

1	Load (VA)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
2	Nominal Battery Voltage	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Battery Bank Voltage:	12	12	12	12	24	24	24	24	48	48	48	48	48	96	96	96	96	120	120	120	
4	No. of Batteries																					
5	Autonomy (Hrs)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
6	Design DOD of Battery Bank -%	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
7	Battery De-rating	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
8	Battery Bank Capacity- VA Hr																					
9	Ah Rating of prescribed C-10 Battery																					
10	Make / Model of Battery																					

**2. Inverter:**

1	Load (VA)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
2	Input Voltage:	12	12	12	12	24	24	24	24	48	48	48	48	48	96	96	96	96	120	120	120	
3	Max. Input Current (DC):																					
4	Output (1Φ-VAC):	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
5	Surge Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Rated capacity:																					
7	No Load Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	Overload Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Indicators / Displays / Alarms:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**3. SPV Array:**

1	Load (VA)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
2	Proposed SPV Module																					
3	Make & Model																					
4	Array Capacity (SPV only) & No of Modules																					
5	Module Voltage (Voc)																					
6	Minimum Cell Efficiency	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	
7	Nominal Array Voltage																					
8	Array Ampacity Factor:																					
9	Charge Controller Rating (Amp):																					
10	Array Capacity & No of Modules with 2 Hrs AC Charging																					
11	Array Capacity & No of Modules with 4 Hrs AC Charging																					
12	Array Capacity & No of Modules with 6 Hrs AC Charging																					

Note: Participant(s) are required to very carefully consider Charging Current in AC Mode to Decide Ah Rating of Battery for Safe, and Smooth Functioning of Battery Bank during its anticipated life.

**1. Battery Bank:**

1	Load (VA)	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
2	Nominal Battery Voltage	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Battery Bank Voltage:	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
4	No. of Batteries	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
5	Autonomy (Hrs)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
6	Design DOD of Battery Bank (%)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
7	Battery De-rating	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
8	Battery Bank Capacity- VA Hr															
9	Ah Rating of Prescribed C-10 Battery															
10	Make & Model of Battery															

**2. Inverter:**

1	Load (VA)	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
2	Input Voltage:	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
3	Max. Input Current (DC):															
5	Surge Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Rated capacity:															
7	No Load Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	Overload Protection:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Indicators / Displays / Alarms:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**3. SPV Array:**

1	Load (VA)	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
2	Proposed SPV Module															
3	Make & Model															
4	Array Capacity (SPV only) & No of Modules															
5	Module Voltage (Voc)															
6	Minimum Cell Efficiency	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
7	Nominal Array Voltage															
8	Array Ampacity Factor:															
9	Charge Controller Rating (Amp):															
10	Array Capacity & No of Modules with 2 Hrs AC Charging															
11	Array Capacity & No of Modules with 4 Hrs AC Charging															
12	Array Capacity & No of Modules with 6 Hrs AC Charging															

**Note: Participant(s) are required to very carefully consider Charging Current in AC Mode to Decide Ah Rating of Battery for Safe, and Smooth Functioning of Battery Bank during its anticipated life.**

**SECTION – IV****SPECIFICATIONS**

**Request for Proposal (RFP) for Design, Supply, Installation, & Commissioning of approximately 100 SPV / AC Hybrid Power-packs of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty + 3/5 years Mandatory Comprehensive Maintenance Contract (CMC):**

**DETAILED TECHNICAL SPECIFICATION FOR SPV / AC BASED HYBRID UPS / POWER-PACKS**

**The Technical Details of SPV / AC BASED HYBRID UPS SYSTEM are following -**

1. TECHNICAL SPECIFICATION - SOLAR PHOTO VOLTAIC MODULES & CELLS
2. TECHNICAL SPECIFICATION - SPV / AC HYBRID UPS SYSTEM
3. TECHNICAL SPECIFICATION - TUBULAR BATTERY
4. TECHNICAL SPECIFICATION - SPV AND BATTERY / PANEL MOUNTING STRUCTURE
5. TECHNICAL SPECIFICATION - CABLES & ELECTRICAL CONTROLS
6. TECHNICAL SPECIFICATION - VOLTAGE STABILISER
7. TECHNICAL SPECIFICATION - LUMINAIRES & ACCESSORIES

**Details of individual items are given below –**

**1. (a) TECHNICAL SPECIFICATION SOLAR PHOTO VOLTAIC CELLS -**

**36 No. Mono-crystalline Silicon Solar Photo-voltaic Cells** carefully matched during assembly and configured in series to provide a nominal voltage of 12V, 75 Watt Peak ( $W_p$ ) or above. Redundantly interconnected cells for added reliability, Photo / Electrical conversion efficiency greater than 13%, High transmissivity glass front surface giving high encapsulation gain, Silicon Rubber edge sealant for module protection and mechanical support, Weather resistant HDPE Junction Box, allowing connection of up to 4 cables through cable glands, mechanically secured to the frame, Provision for fitting up to 4 bypass diodes, Ease of series / parallel connection at the module Junction Box. The output terminals from the solar cells shall be terminated in two positive and negative marked ports in side this box.

**(b) TECHNICAL SPECIFICATION SOLAR PHOTO VOLTAIC MODULES -**

Offered module must have a minimum power output warranty for 20 years. Solar cells / modules used must have a proven record for the delivered energy in actual field conditions in the last five years in India. All specifications refer to the Standard Test Conditions (STC). The PV module parameters are to be measured and warranted at AM1.5 Irradiance of 1 KW/m<sup>2</sup> and at a solar operating temperature of 25deg.c. The conversion efficiency of the solar cells used shall not be less then 13% and Max. Power Rating must be measured at or over 484 mV for each cell. The system shall be operating in Indian climate and hence the modules performance at cell temperatures of 30 Deg. C, 45 deg. C, 60 Deg. C, & 75 deg. C must also be specified in the table given below –

PARAMETER AT	STC	30 Deg. C	45 deg. C	60 Deg. C	75 deg. C
Maximum Power Rating- P max. ( $W_p$ )					
Minimum Power Rating- P min. ( $W_p$ )					
Rated current I mppt (A)					
Rated Voltage V mppt (V)					
Short circuit current Isc (A)					
Open circuit Voltage Voc ( A)					
Number of cells					

Above modules should be as per BIS / MNRE / IEC Norms & Tested at Test Centers accredited by MNRE.

**2. TECHNICAL SPECIFICATION SPV / AC HYBRID UPS SYSTEMS –**

<b>AC MAINS MODE</b>	
Input Voltage	90- 300 VAC
Input Frequency	50 Hz +/- 3%
Output Voltage	Single phase AC
Voltage Regulation	240 +/- 3%
Efficiency	>95%
<b>INVERTER / BATTERY MODE</b>	
Output Waveform	Pure Sine-wave
No load o/p voltage	230 Volt
Voltage regulation	Within in +/- 3 %
Output frequency	50 Hz settable
Frequency stability	Within in +/- 0.1 %
THD	< 3% typical
Efficiency	More than 90%
Transient Voltage Regulation	Within in 5% (Load 0 to 100%)
Endurance	120% for 1 minute, 150 % for 10 seconds
Load Fluctuation	0 - 100%
Crest Factor	3:1
Transfer time	Typical 20 Mili second. / On Line
Cold start	Available
Multimode Charging	Enabled
<b>INDICATION / ALARM</b>	Mains On, Battery On, Charging AC / DC, Battery Voltage / Level Indicator, Alarms-Fault, Battery Low / Full Overload – All Audible Different Tone Alarms
<b>Environmental Rating</b>	
Ambient temperature	0- 50 Deg C
Relative humidity	0- 95% (Non-condensing)
Audible noise	Less than 50 db
<b>Charging mode</b>	SPV / AC / both, with Electronic / Microprocessor Controller. With indication & Manual over-ride.
<b>SPV Reverse Current Protection</b>	Enabled
<b>SPV / Battery Reverse Polarity Protection</b>	Enabled
<b>Certification</b>	<b>BIS, MNRE for Components &amp; Accessories</b>

**3. TECHNICAL SPECIFICATION OF TUBULAR BATTERY -**

- Conforming to IS 1651:1991 other / latest applicable
- 2 Volt Lead Antimony / Lead Calcium Flooded Acid - Deep Discharge Hybrid Battery.
- Nominal Ah capacity at 25 Deg C, C/10 Rating - As per design.
- Nominal Charging / Discharging Current- as per design.

**4. TECHNICAL SPECIFICATION SPV, UPS AND BATTERY MS / GI STRUCTURE -**

**A) MOUNTING STRUCTURE FOR SPV PANNELS -**

These support structure are to be manufactured with Mild-steel angles, Sheets, Mesh & channels preferably spray galvanized to IS 1477 Part 1 or ASTM 2200D with thickness of 70 microns as per IS 5905 or latest standard. These structures are to be designed for suitable mounting on RCC structure on Rooftop / Ground with angle adjustment facility from 5° to 40° with an interval of 5°. These structures are to be easily transportable, with ease in assembly at site. These structures are to be designed to withstand wind up to 150 Km/hr from backside of the panels, as per specific requirement at Site.

**B) UPS / BATTERY MOUNTING STRUCTURE / ENCLOSURE / BOXES –**

Same as above, with proper arrangement (IP 61) of safe handling and maintenance, protected from direct access from out-side, safe and healthy for in-house placement as per requirement at Site.

**5. TECHNICAL SPECIFICATION - VOLTAGE STABILISER:**

<b>AC MAINS MODE</b>	
Input voltage	90 - 300 VOLT
Input frequency	50 Hz +/- 3%
Output voltage	Single phase AC 220/230 volt
Voltage regulation	230 +/- 3%
Efficiency	85%
Display	3 Digit Input & Output

## SECTION – V

### GENERAL TERMS & CONDITIONS OF RFP

**Request for Proposal (RFP) for Design, Supply, Installation, & Commissioning of approximately 100 SPV / AC Hybrid Power-packs of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty + 3/5 years Mandatory Comprehensive Maintenance Contract (CMC)-**

RFP Document belongs to M/s..... RFP Document's Cost / Postal Expenses as applicable have been deposited vide Money Receipt No..... Dated..... Vide Cash / D.D. No..... dated..... of Rs. .... (Rupees..... only) of..... Bank.

**Earnest Money Deposit:** Rs.20000.00 (Rupees Twenty Thousands Only) – (Token EMD)

**Pre-Proposal Meeting:** 16/09/2009 at 12PM

**Last Date & Time for submission of RFP:** 24/09/2009 up to 12AM

**Date and Time of Opening:** 24/09/2009 at 12.30PM

1. Name and Full Postal Address of the Firm submitting the Proposal:

.....  
.....

2. We agree to abide by all the conditions as mentioned in the Notice for RFP issued by M.P. Urja Vikas Nigam Limited, Bhopal, and also further conditions of the said RFP Document given in the attached sheets, all the pages of which have been signed and company' stamp has been affixed by us as Token of Acceptance of the Terms and Conditions mentioned therein.

3. The All Inclusive Rates for Design, Engineering, Supply, Installation, & Commissioning with 2 years Warranty & 3/5 years' Comprehensive Maintenance Contract are quoted in the given Rate-sheets.

4. The Rates quoted shall be Valid for Acceptance by the Nigam within 90 days from the date of opening of the RFP. Rates once accepted and are communicated to the Participant; the Participant shall have to enter into an Agreement in the enclosed Format for the Acceptance of Rates valid up to **31.12.2010**.

5. Demand Draft/FDR No..... Dated..... Of Rs... of ..... Bank drawn in favor of M.P. Urja Vikas Nigam Limited payable at Bhopal is enclosed against Earnest Money Deposit. The latest valid Income Tax Clearance Certificate from the Income Tax office of the circle concerned, if applicable Certified copy of Clearance of Sales tax / Commercial Tax from the Officer concerned are submitted herewith.

**SIGNATURE OF THE PARTICIPANT WITH SEAL**

(On the Letterhead of the Participant Company)

**UNDERTAKING**

I..... S/o Shri.....  
Resident of..... being Director / Proprietor / Partner of  
M/s.....  
whose Sales Tax Registration No. is ..... CST  
Registration No. is ..... Income Tax  
PAN No. is .....and TIN No. is  
.....  
Service Tax No. is .....  
Hereby, give consent to The Madhya Pradesh Urja Vikas Nigam Ltd. Bhopal to Deduct from our Bills whatever  
Amount is Payable by us on account of the CT / Service Tax / VAT and IT dues etc., if any, demanded by the  
concerned Department(s).

**For and on behalf of the Participant Company,**

**Place:**

**Date:**

**Signature :**

**Name :** .....

**Post :** **Director / Proprietor / Partner**

**Seal :**

**DECLARATION**  
**(On Letterhead with Proposal)**

I / we have carefully read and understood the enclosed Terms and Conditions of the RFP and agree to abide by them. I / we have carefully noted that any Counter Condition or Additional Condition put forth after Pre-proposal Meeting on **16/09/2009** by me / us would be liable for summarily rejection, and Proposal would be considered on Terms and Conditions finalized by Nigam.

I / we also declare that we are:

1. Registered Manufacturing Units in India that has received Valid / Successful Test Report / Approval as per MNRE / BIS / BEE / MOP norms as applicable, for Production of SPV Modules with Appropriate Approval of the Recognized Test Center / State / Central Government.
2. I / we have got Test facility at our works for the quoted System(s) along with an Approval / Test-report / Certificate(s) from Approved Test Center(s) of the Ministry of New &Renewable Energy (MNRE) New Delhi / BIS / MOP Recognized Test Centre(s) issued not earlier than 2005, valid up to year..... (Certified Copy is enclosed).
3. I / we have M/s ..... as Our Authorized Representative in Madhya Pradesh to submit the Proposal on our behalf. Certificate of Authorization / Power of Attorney is enclosed. Copy of Agreement between us Manufacturer and Representative mentioned above is enclosed.
4. I / we solemnly undertake that aforesaid Representative would not be changed without prior written permission from MPUVN during entire period of Contract including CMC.
5. I / we declare that neither Us nor our Associate(s) / Authorized Representative(s) have been Black listed or otherwise Debarred for any Supply of Goods / Services / Works by any Ministry / Department / PSU of Central Government / Any of the State Government(s), anytime / anywhere in the Country.

If this Declaration is found to be incorrect or if any RFP Condition is found violated by us, then without prejudice to any other action our Earnest money / Security Deposit may be forfeited in full and the Proposal to the Extent of Acceptance / anytime during Execution of Assignment may be cancelled. The signature of our Authorized Representative in Madhya Pradesh is attested below.

(Signature of Manufacturer)

(Name / Post in block letters)

Signature of Authorized Representative in MP

Name: .....

Address: .....

.....

.....

Attested by  
Authorized Signatory  
Seal of the Participant Company

## **SECTION – VI**

### **SPECIFIC TERMS & CONDITIONS OF RFP**

**Request for Proposal (RFP) for Design, Supply, Installation, & Commissioning of approximately 100 SPV / AC Hybrid Power-packs of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty + 3/5 years Mandatory Comprehensive Maintenance Contract (CMC):**

- 1. Test Reports issued by Authorized Test Centre(s) of MNRE / BIS / BEE / MOP not earlier than 2005 only will be eligible.**
2. Original Documents of the RFP along with the Prescribed Rate-sheet(s) duly signed with Company seal affixed should be submitted by the Participant (Manufacturer or their Authorized Representative), otherwise RFP would be liable for rejection. Certificate of Authorization / Power of Attorney from Manufacturer must be enclosed.
3. In case of any correction made by the Participant in the Rates offered, it should be signed and company seal affixed by the Participant otherwise RFP would be liable for rejection.
4. Power of Attorney to Sign the Agreement on behalf of Participant and Partnership-deed, Memorandum, Articles of Association etc. should be enclosed along with RFP Documents.
5. Notice for RFP, RFP Documents, Prescribed Rate-sheet(s), and Terms and Condition(s) will form the Part of the Agreement, consequent upon the Rate(s) being offered for Agreement.
6. Proposals will be received and opened as mentioned in the NOTICE FOR RFP / THIS RFP DOCUMENT. No acknowledgement of the Proposals received / submitted in the office, shall be issued by the Nigam.
7. Proposals received after stipulated date & time shall not be accepted. Only Properly Sealed Proposals will be accepted during office hours, on any of the working days in the Office of MPUVN as mentioned in the NOTICE FOR RFP / THIS RFP DOCUMENT.
8. Each Participant may have to supply a Returnable Sample of the System / Item (for which they are quoting), if desired by the Nigam.
9. The last date & time of submission of the Proposals is **24/09/2009 up to 12.00 AM.**
10. Proposals received after due date and time shall not be considered. The Proposals of such Participants shall only be considered who have purchased the RFP Document from the Nigam / Downloaded from Nigam's Website and have deposited the prescribed fee of the RFP documents (which is not refundable).
11. The Proposals shall be opened on **24/09/2009 at 12.30 PM** onwards in the Conference Hall of the Head Office of MPUVN at Bhopal by Evaluation Committee as mentioned above, in the presence of such Participants, who wish to remain present at the time of opening.
- 12. If due to any reason the due date is declared a public holiday, Last date of submission /opening of Proposals will be switched on to next working day at the same time.**
13. Proposal should essentially contain the following along with the RFP Document otherwise Financial Bid will not be opened:
  1. Copy of Registration / Certification with relevant Department of the State / Central Govt.
  2. Valid Test Reports as per MNRE' latest Guidelines / BIS / BEE / MOP or Recognized Test Centre(s), Approvals as Proof of Eligibility as applicable.

3. Certified-copy of the Latest Valid Income Tax Clearance Certificate, if applicable, from the Income Tax Office of the circle concerned, Certified-copy of Sales Tax Registration Certificate from the Sales Tax / Commercial Tax Officer concerned. Without which RFP may not be considered, provided that the RFP Committee has reason to believe that the Participant has not been able to submit Clearance Certificate of Income Tax and /or Sales Tax on bona-fide grounds for which reasons are to be given by the Participant in writing.
4. Design & Engineering, Calculations / Assumptions for System Sizing, and Technical Specifications of the Systems / Components / Sub-components / Items for which Rates have been quoted.
5. Detailed Company Profile including Financial - status, Balance sheets, Profit & Loss Accounts, Turn-over etc of last Three Years.
6. Details of the Relevant Work(s) done during last Five Years. (In Format Enclosed)
7. A list of similar projects / supplies, if any, completed / under completion, along with current status of the same and the total production capacity per annum.

**14. The Procedure for Opening of the Proposals shall be as under:**

1. Biggest Envelope containing 3 Sealed Envelopes shall be opened and all the contents of the same will be taken out. First envelope (Part-1) bearing RFP No. / Due date & super-scribed as “EMD” shall be opened first at the time and date mentioned in the NOTICE FOR RFP / THIS DOCUMENT by MPUVN’ Evaluation Committee in the presence of Participants who choose to be present.
  2. Second envelope (Part-2) bearing RFP No. & super-scribed as “TECHNICAL PROPOSAL” only of those Participants whose First Envelope (Part-1) has been found as per Terms & Conditions of NOTICE FOR RFP & RFP Documents shall be opened in the presence of Participants.
  3. Third envelope (Part-3) bearing RFP No. & super-scribed “FINANCIAL PROPOSAL” containing Price-bid(s) shall be opened after establishing / ascertaining that Technical Information(s), Certification(s), Specification(s) and Clarification(s) thereof as received in Part-2 are as per Terms & Conditions of NOTICE FOR RFP & RFP Documents and are accepted by MPUVN’ Evaluation Committee. Third envelope only those Participants whose First and Second envelopes have been found financially and technically suitable shall be opened.
  4. In case it is not possible to open Third Envelope (Part-3) at the time and date mentioned in the RFP Notice / This Document due to activities mentioned in Para-13, then the opening of the Third Envelope shall be postponed and intimation to this effect shall be sent to the Participants by Telegram / Telex / Fax / E-mail etc. To avoid postponement, it will be in the interest of the Participants to send their Authorized Representatives well conversant with the proposal, process, and competent enough to take appropriate decision on Technical and Financial matters at the time of opening of Proposals.
15. Postal delays shall be no excuse for accepting Proposals after stipulated date and time. No Proposal shall be accepted by Fax / E-mail. Proposals received in Unsealed / Open Envelope(s) shall not be considered.
  16. Complete information as desired should be enclosed with each Proposal. Incomplete Proposal may be rejected. Any or all Proposals may be rejected or accepted partially or fully without assigning any reason thereof by the Managing Director of the M.P. Urja Vikas Nigam Limited, Bhopal.
  17. Conditional Proposal shall not be accepted.
  18. Direct or indirect canvassing on the part of the Participant or Authorized Representative will lead to disqualification.

19. The final acceptance of the Proposal will rest at discretion of the Competent Authority of M.P. Urja Vikas Nigam Limited, Bhopal who is not bound to accept the Lowest Cost Proposal. Once the Rates offered are accepted by M P Urja Vikas Nigam Limited, and communicated to the Eligible Participant, they shall have to sign an Agreement for Contract. The Participant shall also have to Sign Comprehensive Maintenance Contract (CMC) simultaneously. If Participant, whose Rates have been accepted, does not sign the Agreement along with CMC within two weeks from the date of Intimation, EMD shall be forfeited and their Proposal will be treated as cancelled.
20. Participant will have full Responsibility for Packaging, Forwarding, Transportation, Supply and any type of Breakages / Losses etc. thereto. The Goods / Systems will be delivered at the destination stores, installed and commissioned at site in the perfect conditions as per terms & conditions of Letter of Intent / Work Order.
21. The Participant may get goods / field personnel insured against any loss by theft or damage by fire / flood / local & site conditions etc., up-till goods are handed-over to the designated receiver as per terms & conditions of the Work Order. The insurance charges will have to be borne by the Participant only.
22. Participant will have to put a Nameplate / Label and Mark Bar code & / Serial No. / Code No. Etc. of their Products as per MNRE / BIS / ISO / BEE / MOP or other Applicable Specification(s).
23. Octroi charges, Value Added Tax (VAT) or any other Charges / Duties as applicable or levied will have to be borne by the Participant.
24. The agreement will be valid up to **31.12.2010**. The validity period may be extended further with the Mutual Consent on unchanged Terms & Condition(s), Specification(s) and Rate(s) up to one year.
25. In the event of any of the breach of the conditions of the contract at any time on the part of the Participant, the contract may be terminated by the competent authority of M.P. Urja Vikas Nigam Ltd., Bhopal without any compensation to the Participant. EMD / Payments due shall be forfeited.
26. The Warranty-card, Complete Literature along with Specifications of the Material(s), Equipment(s) along with User's / O& M Manual(s) supplied must accompany the Supplies. The Participant will also have to supply Operation and Maintenance Manual with "Dos and Don'ts" and Trouble shooting / remedies of minor faults related to each system as per Applicable Specification(s) / Norm(s) / Security & Safety Code(s) / Procedure(s).
27. No new partner / partners shall be accepted in respect of the Contract unless he / she / they agree to abide by all terms and conditions of the Agreement and submit to the Nigam (MPUVN) a written agreement to this effect.
28. The Participants are required to carefully study, all the Condition(s) of the RFP, the enclosed Specifications and the relevant Provisions of relevant BIS / ISO / MNRE / BEE / MOP Norms as applicable / as the case may be, wherever necessary before submission of their Proposal. The Technical particulars of the Material(s) & Equipment(s) offered must comply with the enclosed and / or relevant Specifications. The prices shall remain constant during the currency of the contract.
29. (a) The Rates quoted must be firm and fixed for-
  1. Design & Engineering, Supply, Installation and Commissioning including packing, forwarding, loading, unloading, transportation charges and insurance charges, including all taxes & Service Tax, and duties etc.
  2. Comprehensive Maintenance Contract including Service Tax etc. at designated locations in the enclosed format of rate sheets.
  3. Participants should note that, Work orders will be issued as per requirement(s) of the Beneficiary (ies) with Nigam to the extent of twice of what mentioned in this document but of exactly same specifications during validity period. Participant would be bound to deposit Proportionate (2/3% of Order-value) Earnest Money Deposit, (as applicable) for the same after receiving Intimation from Nigam.

(b) Although, the RFP is issued for Standardization of Rates, the Lowest Rate(s) received and in turn Approved by the Competent Authority of MPUVN would be termed the MPUVN's Approved Rate for similar requirements (to the extent of twice of what mentioned in this document). Eligible Participant(s) shall furnish Un-conditional Acceptance and deposit Proportionate EMD as explained above within 7 days from date of Intimation up till expiry of contract agreement i.e. **31.12.2010**.

(c) Anticipated Requirement of Items mentioned in NOTICE FOR RFP is subject to change with respect to release of funds from MNRE / MP Government / other Beneficiaries as applicable on case to case basis.

30. No price escalation on account of any statutory increase in or fresh imposition of Custom-duty, Excise-duty, & any other taxes Duty in respect of the Goods / Raw Materials specified in the said Acceptance of the RFP shall be allowed.
31. If any Eligible Participant is found unable to complete the supplies / works within the specified time period, M.P. Urja Vikas Nigam Ltd., will be free to purchase the balance goods from elsewhere without notice to the Participant but at Participant's cost and risk. The goods or any part thereof which the Participant has failed to supply or if not available, the best and nearest available substitute thereof, shall be purchased by the Nigam. Any loss or damage that the Nigam may sustain due to such failure on the part of the Participant, recovery of such loss or damage shall be made from any sum payable to the Participant. If recovery is not possible from the bills and the Participant fails to pay the losses or damages within one month, the recovery shall be made under Madhya Pradesh Public Demand Recovery Act or any other law applicable under these circumstances. In such a case, the Contract shall automatically stand cancelled.
32. In case of Natural Calamity or Reasons beyond Control or Un-avoidable Circumstances and Supply / Work not completed in specified time, extension of time may be granted by the Managing Director after receiving Written Request from Supplier / Participant before stipulated time mentioned in Work / Supply Order.
33. The Successful / Eligible Participant shall not assign, sublet or transfer the contract or any part thereof to any party without the prior consent of the Nigam. In the event of Participant contravening this condition, the Nigam shall be entitled to place the Contract elsewhere on the Participant's risk and cost and the Participant shall be liable for any loss or damage, which the Nigam may sustain due to the consequences arising out of such replacing of the Contract.
34. The M.P. Urja Vikas Nigam Ltd. shall purchase systems/materials as per requirement. However, the quantity as given in the Notice for RFP may also increase provided Specification(s) applicable remain unchanged.
35. Even if the Nigam does not purchase any of the articles or purchases less than the quantity communicated in the RFP, the Participant shall not be entitled to claim any compensation / damage.
36. The time period specified for execution of the work order shall be deemed to be the essence of the contract and the successful Participant shall arrange all the needful within the stipulated period(s).
37. The supplied materials should be strictly as per specifications mentioned in the RFP Document / Proposal otherwise shall be liable for rejection. In case any defective material or any type of substandard material is supplied, the material will be rejected and it will be the responsibility of the Participant for taking back the rejected materials at his / her own cost within fifteen days from the date of communication of rejection. After that, the Nigam shall not be responsible for security/safety of the materials rejected.
38. Any type of fittings, accessories, assemblies, essentially required components, which are not described or mentioned in RFP documents, shall have to be supplied by the Participant as per MNRE / BIS / BEE / ISO / MOP's Standards & Practices as applicable at his own cost.
39. The responsibility of imparting training to beneficiaries of the systems (free of charge), ensuring after sales services and availability of spares at a nearby suitable place / places will rest with the Participant.

40. While finalizing the RFP, in case of other parameters being equal, preference may be given to Public Sector Undertakings as per guidelines of MNRE and to the Registered & Eligible Small Scale Industries of Madhya Pradesh as per Stores Purchase Rule(s) of the State Government of Madhya Pradesh. Eligible Scheduled tribe / Scheduled caste Entrepreneurs of the State will also be considered on priority under the same Rule(s).
41. In compliance with the M.P. State Govt. Stores Purchase Rules, preference is to be given to the Schedule Caste / Scheduled Tribe Manufacturers of Madhya Pradesh as defined in Clause 17 (a) of the M.P. Govt. Stores Purchase Rules. 30% of the estimated required quantity shall be kept reserved for supply by all eligible SC/ST Manufacturers of M.P. including those who may not have participated in this RFP and are registered with the Department of Industries, Govt. of M.P. Further, provided that if no eligible SC/ST Manufacturers of M.P. mentioned as above, are available for supply of the above reserved quantity or any part thereof the purchase order for the remaining quantity shall be given to other eligible Participants subject to the Approval of Appropriate & Competent Authority.
42. **Liquidated Damages / Risks-** In case the Participant fails to deliver goods / complete the work within the time period specified in the Work order / Contract with MPUVN a sum equivalent to 2.5% of the basic value of incomplete Work / Supply shall be deducted for each week of delay or part thereof subject to a maximum deduction of 25% of the delayed supplies / incomplete installations in terms of basic value. After the expiry of penalty period of 10 weeks, the work order shall stand cancelled and apart from imposition of maximum penalty, action as per clause 31 and other relevant clauses shall be applicable.
43. **Inspections and Tests-** MPUVN shall have the right to inspect the goods to confirm their conformity to the technical specifications at the Works of Participant.
44. **Arbitration-** That, in the event of any dispute or difference whatsoever arising under the Contract / Work order placed by MPUVN, the same shall be referred to Arbitration which shall be as per the Provisions of the Indian Arbitration Act, 1996 and the Rules applicable thereto / under. All the Proceedings of Arbitration will take place in Bhopal. The award in such arbitration shall be final and binding on both the parties i.e. MPUVN and Participant. In this case the arbitrator shall be Secretary, Energy department, Govt. of Madhya Pradesh / Managing Director, M.P. Urja Vikas Nigam Ltd., Bhopal. That, any dispute between Participant and M. P. Urja Vikas Nigam Ltd., Bhopal shall be subjected to Bhopal jurisdiction.

## SECTION – VII

### TERMS & CONDITIONS FOR PAYMENT(s)

**Request for Proposal (RFP) for Design, Supply, Installation, & Commissioning of approximately 100 SPV / AC Hybrid Power-packs of various capacities for UPS applications / Systems for Domestic / Office / Commercial / Project Applications with 2 years Warranty + 3/5 years Mandatory Comprehensive Maintenance Contract (CMC):**

#### **Terms & Conditions for Payment(s) against Supply, Installation and Commissioning:**

Payments will be made as per Terms and Conditions described below after Supply / Installation and Commissioning of System / Equipment / Completion of Work, Maintenance of System (s) during Warranty / CMC period to the Satisfaction of the Nigam (MPUVN). The Inspection of Equipment or Material at Works of the Participant may also be got done as and when required or felt necessary by the Competent Authority through Authorized Officers of the Nigam before dispatch of material to the specified destination. Regular Inspection(s) of the Equipment / Material / Goods will also be carried out at the Destination or Site during Warranty / CMC Period.

1. 60% of Work-order value shall be released after Successful Installation, and Commissioning against Submission of appropriate Bills in Triplicate along with Joint Commissioning Report duly signed by Contractor, Beneficiary, and concerned Inspecting Authority for all the Systems, Inspection Report duly signed by Inspecting / Bill- Forwarding Authority, and Controlling Authority's Proposal for Release of Payment to Finance Section.
2. 25% of Work-order value shall be released on Submission of Performance Bank Guarantee termed as Security Deposit (On Non-judicial Stamp Paper of Rs.250/-) of Equivalent Amount valid for Two years Warranty plus 3/5 years CMC period as applicable (plus 6 months grace period).
3. In case if the contract is awarded for 3 years CMC, 5% of Order value shall be released against submission of Certificate of Satisfactory Performance & Maintenance of System duly signed & forwarded by Beneficiary / MPUVN's Authorized Officer(s) upon completion of Two years Warranty and every year of 3 years CMC period with in three months of ending year.
4. In case if the contract is awarded for 5 years CMC, 3% of Order value shall be released against submission of Certificate of Satisfactory Performance & Maintenance of System duly signed & forwarded by Beneficiary / MPUVN's Authorized Officer(s) upon completion of Two years Warranty and every year of 5 years CMC period with in three months of ending year.
5. **Commercial tax: It will be desirable for the participants to obtain registration from M.P. Commercial Tax Department. (TIN).The details of the same are available at website [www.mptax.nic](http://www.mptax.nic) else M.P.VAT and any other Tax / Duty if applicable shall be deducted at Source.**
6. **Income tax shall be deducted at Source.**

**Appendix-I****Relevant Services carried out in the Last Five Years Which Best Illustrate Qualification:**

The following information should be provided in the following format for each reference assignment carried out, either individually as a corporate entity or as one of the major companies within a consortium, was legally contracted by the client stated below:

<b><u>Assignment Name:</u></b>		<b><u>Country:</u></b>	
<b><u>Location within Country:</u></b>		<b><u>Professional Staff Provided by your Firm:</u></b>	
<b><u>Name of Client:</u></b>		<b><u>No. of Staff:</u></b>	
<b><u>Address:</u></b>		<b><u>No. of Staff Months:</u></b>	
<b><u>Start Date (Month / Year)</u></b>	<b><u>Completion Date: (Month / Year)</u></b>	<b><u>Approximate Value of Services: (Rs.)</u></b>	
<b><u>Name of Associated Firm(s) if any:</u></b>		<b><u>No. of Months of Professional Staff provided by Associated Firm(s):</u></b>	
<b><u>Name of Senior Staff (Project Director / Coordinator, Team Leader) involved and functions performed:</u></b>			
<b><u>Narrative Description of Project:</u></b>			
<b><u>Description of Actual Services Provided by your Staff:</u></b>			

**Note - Enclose Copies of Work orders, Certificates of Satisfaction, Testimonials etc.**

**COMPOSITION OF THE PROPOSED TEAM AND THE TASK ASSIGNED TO EACH TEAM MEMBER:****1. Technical/Managerial Staff:**

S. No.	Name	Position	Task to be Assigned	Remark (if any)
1.				
2.				
3.				
4.				

**FORMAT OF CURRICULUM VITAE (CV) FOR PROPOSED KEY STAFF:**

Proposed Position: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Name of Staff: \_\_\_\_\_

Age: \_\_\_\_\_ employed for \_\_\_\_\_ Years with this Firm, and, total work experience of \_\_\_\_\_

Nationality: \_\_\_\_\_ Detailed Tasks Assigned: \_\_\_\_\_

**Key Qualification:**

(Give an outline of staff member’s experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use up to half a page).

**Education:**

(Summarize College / University and other Specialized Education. Use up to a quarter page).

**Employment Record:**

(Starting with present position, list in inverse chronological order for experience in last ten years, also give type of activities performed and client references, where appropriate Use up to three-quarters of a page).

**Languages:**

(Indicate proficiency in speaking, reading and writing of - each language by “excellent”, “good”, “fair”, or “poor”).

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this bio-data correctly describes my qualifications, my experience, and me.

**Signature of Employee,**

\_\_\_\_\_

**Date:.....**

**Name, & Signature / Seal of Employer or  
Authorized Signatory of the firm  
Day/Month/Year**

**Format for Submission of Conditionality**

**To,**  
**Shri Shrikant Deshmukh**  
**Executive Engineer,**  
**Head Office,**  
**MP Urja Vikas Nigam Ltd.,**  
**Urja Bhavan, Main Road No.2,**  
**Near Bus-stop No.5, BHOPAL – 462016**  
**PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122, E-Mail: cmpuvn@bsnl.in**

**Subject: Conditionality / Deviations on the RFP Proposal**

**Dear Sir,**

Irrespective of whatever has been stated to the contrary anywhere else in our proposal, only following are conditionality / deviations and variations and exceptions to the RFP stipulations. These deviations / variations are / are not exhaustive. Further, we agree that additional conditions if any found elsewhere in the offer other than those stated in the Format below shall not be given effect to-

**S. No. / Volume / Statement of conditionality /deviations / Clause No. / Page No.-**

(No price is to be indicated in this Schedule)

**For and on behalf of:**

**Signature: (Authorized Signatory)**

**Name of the Person:**

**Designation:**

Format for Submission of Financial Proposal by Participants

To,

**Shri Shrikant Deshmukh**

Executive Engineer,

Head Office,

MP Urja Vikas Nigam Ltd.,

Urja Bhavan, Main Road No.2,

Near Bus-stop No.5, BHOPAL – 462016

PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122

E-Mail: cmpuvn@bsnl.in

Dear Sir,

We have understood the instructions and the terms and conditions mentioned in the RFP Document and have thoroughly examined the RFP Document and are fully aware of the scope of work required. We are hereby submitting our “Financial Proposal” as per prescribed format in a separate sealed envelope enclosed herewith.

For and on behalf of:

**Signature: (Authorized Signatory)**

**Name of the Person:**

**Designation:**

**SCHEDULE OF PRICES BY CATEGORY OF EXPENDITURE (Sheet – 1)**

S. No.	SPVPP / SPVACHS Capacity in (VA) **	Rate(s) in Rupee * for SPV only Configuration(s)		
		Item - I - Basic Price (System Cost with 2 years Warranty)	Item - II - Basic Price with 3 years CMC	Item - III - Basic Price with 5 years CMC
1	50			
2	100			
3	150			
4	200			
5	250			
6	300			
7	350			
8	400			
9	450			
10	500			
11	550			
12	600			
13	650			
14	700			
15	750			
16	800			
17	850			
18	900			
19	950			
20	1000			

**Item – I-** Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning.(Basic Value).

**Item – II-**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 3 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

**Item – III-**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 5 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

\* Rates quoted must be Firm and Fixed for Design, Engineering, Supply, Installation and Commissioning, 2 years Warranty all inclusive of Site Visits, Packaging, Forwarding, Spare-parts, Insurance and Taxes including Duties FOR Site (s) mentioned in the Document. No price escalation will be allowed. It shall be essential to quote rates inclusive of CMC or else the Proposal shall not be accepted.

\*\* Individual / Itemized costs may be averaged, and enclosed herewith separately in Format in Appendix – V – (C) only.

**SCHEDULE OF PRICES BY CATEGORY OF EXPENDITURE (Sheet – 2)**

S. No.	SPVPP / SPVACHS Capacity in (VA) **	Rate(s) in Rupee * for SPV with 2 hrs Battery Charging by AC Mains		
		Item - I - Basic Price (System Cost with 2 years Warranty)	Item - II - Basic Price with 3 years CMC	Item - III - Basic Price with 5 years CMC
1	50			
2	100			
3	150			
4	200			
5	250			
6	300			
7	350			
8	400			
9	450			
10	500			
11	550			
12	600			
13	650			
14	700			
15	750			
16	800			
17	850			
18	900			
19	950			
20	1000			
21	1100			
22	1200			

**Item – I-** Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning.(Basic Value).

**Item – II -**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 3 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

**Item – III-**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 5 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

\* Rates quoted must be Firm and Fixed for Design, Engineering, Supply, Installation and Commissioning, 2 years Warranty all inclusive of Site Visits, Packaging, Forwarding, Spare-parts, Insurance and Taxes including Duties FOR Site (s) mentioned in the Document. No price escalation will be allowed. It shall be essential to quote rates inclusive of CMC or else the Proposal shall not be accepted.

\*\* Individual / Itemized costs may be averaged, and enclosed herewith separately in Format in Appendix – V – (C) only.

**SCHEDULE OF PRICES BY CATEGORY OF EXPENDITURE (Sheet – 3)**

S. No.	SPVPP / SPVACHS Capacity in (VA) **	Rate(s) in Rupee * for SPV with 4 hrs Battery Charging by AC Mains		
		Item - I - Basic Price (System Cost with 2 years Warranty)	Item - II - Basic Price with 3 years CMC	Item - III - Basic Price with 5 years CMC
1	50			
2	100			
3	150			
4	200			
5	250			
6	300			
7	350			
8	400			
9	450			
10	500			
11	550			
12	600			
13	650			
14	700			
15	750			
16	800			
17	850			
18	900			
19	950			
20	1000			
21	1100			
22	1200			
23	1300			
24	1400			
25	1500			
26	1600			
27	1700			

**Item – I-** Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning.(Basic Value).

**Item – II -**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 3 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

**Item – III-**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 5 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

\* Rates quoted must be Firm and Fixed for Design, Engineering, Supply, Installation and Commissioning, 2 years Warranty all inclusive of Site Visits, Packaging, Forwarding, Spare-parts, Insurance and Taxes including Duties FOR Site (s) mentioned in the Document. No price escalation will be allowed. It shall be essential to quote rates inclusive of CMC or else the Proposal shall not be accepted.

\*\* Individual / Itemized costs may be averaged, and enclosed herewith separately in Format in Appendix – V – (C) only.

**SCHEDULE OF PRICES BY CATEGORY OF EXPENDITURE (Sheet – 4)**

S. No.	SPVPP / SPVACHS Capacity in (VA) **	Rate(s) in Rupee * for SPV with 6 hrs Battery Charging by AC Mains		
		Item - I - Basic Price (System Cost & 2 years Warranty)	Item - II - Basic Price with 3 years CMC	Item - III - Basic Price with 5 years CMC
1	50			
2	100			
3	150			
4	200			
5	250			
6	300			
7	350			
8	400			
9	450			
10	500			
11	550			
12	600			
13	650			
14	700			
15	750			
16	800			
17	850			
18	900			
19	950			
20	1000			
21	1100			
22	1200			
23	1300			
24	1400			
25	1500			
26	1600			
27	1700			
28	1800			
29	1900			
30	2000			
31	2100			
32	2200			
33	2300			
34	2400			
35	2500			

**Item – I-** Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning.(Basic Value).

**Item – II -**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 3 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

**Item – III-**Design & Engineering, Supply, Installation, Testing, and Commissioning of Complete System as per Scope of Notice for RFP / RFP Document / Technical Proposal inclusive of 2 years Warranty from the Date of Commissioning, and Comprehensive Maintenance for 5 years after expiry of 2 years Warranty Period as per Scope of Notice for RFP / RFP Document / Technical & Financial Proposal.

\* Rates quoted must be Firm and Fixed for Design, Engineering, Supply, Installation and Commissioning, 2 years Warranty all inclusive of Site Visits, Packaging, Forwarding, Spare-parts, Insurance and Taxes including Duties FOR Site (s) mentioned in the Document. No price escalation will be allowed. It shall be essential to quote rates inclusive of CMC or else the Proposal shall not be accepted.

\*\* Individual / Itemized costs may be averaged, and enclosed herewith separately in Format in Appendix – V – (C) only.

**Average Individual / Itemized / Break-up of Rates per KV capacity quoted at Appendix - V (B) –**

S. No.	Item	Average Cost per Unit Load (VA) (In Rupees)			
		SPV only	SPV + 2 Hrs AC Charging	SPV + 4 Hrs AC Charging	SPV + 6 Hrs AC Charging
1.	SPV Modules				
2.	Mounting Structures				
3.	PCU along with Displays, Alarms, & Indicators				
4.	Battery Bank with Mounting Rack & Ventilation				
5.	System Wiring up to Distribution Panel				
6.	Any other Item (Specify)				
	<b><u>Ex-works Costs (1-6)</u></b>				
6.	Design & Engineering				
7.	Supply, Installation, Testing & Commissioning				
8.	Training, O&M / User's Manuals, Spares during Warranty / 3 or 5 Year's CMC				
9.	Any other Item (Specify)				
	<b><u>Other Costs (6-9)</u></b>				
10.	<b><u>Total Costs (Ex-works ± Other)</u></b>				
11.	Any other Item not covered above				

Acknowledgement of RFP Document

(Confirmation to be provided on the Letterhead of the Participant)

To,

**Shri Shrikant Deshmukh**

**Executive Engineer,**

**Head Office,**

**MP Urja Vikas Nigam Ltd.,**

**Urja Bhavan, Main Road No.2,**

**Near Bus-stop No.5, BHOPAL – 462016**

**PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122**

**E-Mail: cmpuvn@bsnl.in**

**Subject: Acknowledgement of Notice for RFP No. \_\_\_\_\_ / RFP Document No. \_\_\_\_\_.**

**Ref: Our Letter / E-mail No. \_\_\_\_\_ dated- \_\_\_\_\_.**

**Dear Sir,**

The undersigned in his / her capacity as the Authorized Signatory / Representative of M/s -----, is hereby pleased to Acknowledge the Receipt / Downloading of above referred Notice for RFP / RFP Document on \_\_\_\_\_ (Date).

2/ The undersigned also confirms that the complete RFP Document has been received, and Proposal in the Requisite Format along with all Testimonials / Documents shall be submitted by us on or before stipulated time limit.

**Thanking you,**

**For, Name of Company**

**Signature**

**Name of Signatory**

**Title of Signatory**

**Seal of Company**

**TWO YEARS WARRANTY AND THREE / FIVE YEAR'S COMPREHENSIVE MAINTENANCE CONTRACT (CMC):**

1. The performance of the System Supplied / Installed / Commissioned shall be under Warranty by the Participant for a minimum period of 2 years from the date of commissioning of system at site. This Warranty shall be for a minimum period of two years from the date of commissioning for the complete system (In case of Systems / Batteries it may be two years or more as per guaranty / warranty card provided by System / Battery Manufacturer and minimum ten years for the SPV modules) from the date of commissioning.
2. Comprehensive Maintenance Contracts will be signed between the Beneficiary / MPUVN and the Participant. Payments against CMC will be made by the Beneficiary / MPUVN to the Participant as per terms & conditions of the CMC.
3. It is mandatory on the part of successful Participant(s) to enter into an agreement for providing post installation services for maintaining and monitoring the supplied / installed / commissioned products / systems up to the period of 3/5 years after the date of successful completion of two years warranty period. For this, successful Participant(s) will have to develop infrastructure facilities at suitable place to extend services at the beneficiary's place / site(s). Charges as per the CMC shall be paid to the Participant by MPUVN / the beneficiaries concerned. Participant should have the infrastructure facilities to the satisfaction of the Nigam / beneficiaries. Participants will have to provide the list of authorized dealers / authorized service stations along with the capacity / capability.
4. Out of aforesaid 5 / 7 years mandatory maintenance, first two years will be covered under two years warranty period from the date of commissioning, for which no service / maintenance charges will be separately paid. After the end of two years' service / maintenance warranty, the charges for rest of the years will be paid as per approved rates and the terms of the agreement. For servicing and maintaining the systems (to ensure 100% working status), the Participant will have to arrange all required instruments, tools, spares, components (including battery as applicable per se battery life), manpower and other necessary facilities at his own cost.
5. If the Participant fails to ensure 100% working status during warranty and CMC period, penalty will be imposed @ 2.5% of the cost of the system per week or part thereof for the first instance subject to a maximum limit of 25% of the same value and later on the maintenance shall be done at supplier's cost and security deposit will also be forfeited.

During the warranty period MNRE / MPUVN / BENEFICIARY reserve the right to cross check the Performance of the Systems with the Minimum Performance Level specified in the Specifications.

## Scope of Comprehensive Maintenance Contract (CMC)

The Comprehensive Maintenance contract shall be comprehensive which shall include servicing & replacement of all systems components even after warranty period of 2 or 3/5 years as provided by the manufacturer as applicable including replacement of battery / module during entire CMC period. The specified periods would be either 3years as stipulated in the Contract / Work Order to be placed by MPUVN State Nodal Agency. The maintenance service provided shall ensure proper functioning of the entire system as a whole. All preventive / routine maintenance and breakdown / corrective maintenance required for ensuring maximum uptime shall have to be provided. Accordingly, the Comprehensive Maintenance Contract (CMC) shall have two distinct components as described below.

- i) **Preventive / Routine Maintenance:** This shall be done by the company at least once every three month and shall include activities such as cleaning and checking the health of the installed system, cleaning of module surface, topping up of batteries, tightening of all electrical connections, changing of tilt angle of module mounting structure, cleaning & greasing (by petroleum jelly) of battery terminals and any other activity that may be required for proper functioning of the system as a whole.
- ii) **Breakdown / Corrective maintenance:** Whenever a complaint is lodged by the user, the Participant shall attend to the same within a reasonable period of time and in any case the breakdown shall be corrected within a period not exceeding fifteen days.
- iii) For carrying out the CMC effectively, the manufacturer / supplier should have adequate Service Centre(s).
- iv) The Participant shall maintain the following facilities at the local Service Centre for ensuring highest level of services to the end users:
  - a. **Adequate trained manpower specifically trained by the Participant for carrying out the service activities.**
  - b. **Adequate provisions for record keeping which shall include the following:**
    - Details of Systems supplied within the command area of the Concerned Service Centre as per locations mentioned in this RFP including full name and address of end users, systems and sub-systems serial numbers and records of routine maintenance carried out (duly signed by the end user) should be provided. These records shall include all major parameters required to monitor system' upkeep & performance such as voltage, current, specific gravity, indicator charge, CFL full-glow, charge controller operation, electronics etc. as applicable.
    - Chronological History / Record sheets of maintenance done.
    - Spares available / required for ensuring least down time of individual system under this RFP.
    - The Service Centre shall send Summarized Service Reports to MPUVN on Quarterly Basis.
    - **These reports shall include the following information:**
      1. Number of systems covered by the service station
      2. Number of system working satisfactorily on the reporting date
      3. Number of complaints received during the period of reporting
      4. Number of complaints attended during the period of reporting
      5. Major cause of failure, as observed.
      6. Major replacement made during the reporting period.

**Separate report shall be submitted Systems / Manufacture-wise in case the Service Centre caters to the requirement of more than one Manufacturer -**

- a. The Participant shall ensure adequate insurance of Systems against robbery, theft, burglary and acts of God such as natural calamities, flood and up to Installation, Commissioning, and Handing-over of the System to User / Beneficiary etc.**
- b. The records maintained at the Service Centre shall be made available for scrutiny of authorized representatives of MPUVN or MNRE.**
- c. The date of CMC maintenance period shall begin after 2 years warranty period from the date of commissioning of the SPV systems.**

**The Participant must arrange for Adequate and Proper Packing of Goods being dispatched to the Site of Installation in the Proper & Adequate manner so that safe delivery of all items is ensured.**

**FORMAT FOR BANK GUARANTEE BOND FOR PERFORMANCE SECURITY**

**BANK GUARANTEE No ....., Amount of Guarantee Rs. (IN FIGURE) (Rupees (IN WORDS)) Bank Guarantee covers from ..... to.....**

This Deed of Guarantee made on ..... (Day) ..... of ..... (Month) ..... of ..... (Year) ..... Between ..... (Here-in-after called the **Guarantor**) on the One Part / On behalf of M/s ..... (Here-in-after called the **Contractor**), and in favour of M.P. Urja Vikas Nigam Ltd., Bhopal (Here-in-after called the **MPUVN**) on the following Terms, and Conditions:

1. Whereas, the **Contractor** having entered into Agreement on ..... (Date) .....with the **MPUVN** (a copy of said agreement has been received by **us**) and **Contractor** having agreed to Deposit Security of Rs.....(in figure).... (Rupees... (in words) .....) in favour of the **MPUVN** in the Form of Bank Guarantee, in token towards Design, Engineering, Supply, Installation, Testing and Commissioning, 2 year’s Warranty, and Comprehensive Maintenance Contract of .... (.....year’s) vide Order No..... (dated) ..... to the satisfaction of the Managing Director of the **MPUVN** for ...(Total)...Years / Months against the said Contract Agreement.

2. Whereas the **Guarantor** further agree that the Managing Director of the **MPUVN** is competent to decide whether the Execution of Design, Engineering, Supply, Installation, Testing and Commissioning is as per Terms & Conditions of the Contract Agreement or Not. His decision shall be binding on us.

3. Whereas the **Guarantor** further agree to pay immediately the amount Guaranteed within a period of one week of the same being demanded by the **MPUVN** with intimation to the **Contractor**.

4. This Guarantee shall remain enforced and shall continue to be enforceable till ..... and, shall be extended on receiving instructions from the **MPUVN**, with intimation to the **Contractor**. However, the Bank Guarantee shall stand automatically enforceable for a period of further six months unless discharged by the **MPUVN**, under intimation to the **MPUVN** by the Bank immediately.

5. Whereas the **Guarantor** further agree that their liability under this Guarantee shall not be affected by reason if any change in the agreement or the terms and conditions between the **Contractor** and the **MPUVN** or without the consent or knowledge of the **Guarantor**.

6. Whereas the **Guarantor** further agree that Managing Directors decision whether Contractor has committed any breach or non-observance of the terms and conditions of the said contract shall be final and enough for Guarantors to make payment to the **MPUVN**.

7. Whereas the **Guarantor** further agree that the amount due or amounts of damage or loss caused to or suffered by the Nigam are binding on us and undertaking to pay the amount Guaranteed hereby or part thereof as required, immediately / within one week of the demand made by the **MPUVN**.

8. Whereas the **Guarantor** hereby undertake not to revoke this Guarantee bond during its currency period except with the previous consent of the **MPUVN** in writing. However, unless a demand or claim is made in writing on or before the expiry of this Guarantee as mentioned in Clause No. 4 above, the **Guarantor** shall be released and discharged from all liabilities there under.

Notwithstanding any thing contained in foregoing our liability under this Guarantee is restricted to Rs..... (Rupees.....only) Our Guarantee shall remain in force up to six months from the date of expiry of currency / extended period of the Bank Guarantee.

**For, .....Bank,**

**(Signature / Name of Bank Officer / Seal of Authorized Signatory)**

**(Format for Agreement be submitted on Non-judicial Stamp Paper )**

**C O N T R A C T    A G R E E M E N T**

This agreement is signed on this ---- (day)----- of ----(month)---- of ----(year)----- at Bhopal between M/s-----  
----- (here-in-after called as “Party No 1”), and Madhya Pradesh Urja Vikas Nigam Ltd., Bhopal (here-in-after called as “Party No.2”), on the following terms and conditions:

That, the “Party No.1” has agreed to Execute Work as per Scope / Specifications mentioned in Notice for RFP No. / RFP Document No. / Letter of Intent No. For (Brief Description of Assignment / Site) issued by “Party No.2”.

That, the “Party No.1” has also agreed to execute Comprehensive Maintenance Contract (CMC) for ---(years)--- effective from completion of Warranty Period as per Scope / Specifications mentioned in Notice for RFP No. / RFP Document No. / Letter of Intent No. For (Brief Description of Assignment / Site) issued by “Party No.2”, on the rates already accepted / agreed upon as mentioned in the annexed “Rate sheet”.

That, the Rates shown in the Rate Sheet(s) enclosed are valid up to **31/12/2010**, and in case of additional requirements of works as per same Scope / Specifications mentioned in Notice for RFP No. / RFP Document No. / Letter of Intent No. For (Brief Description of Assignment / Site) issued by “Party No.2” same Rates shall be applicable up to **31/12/2010**, if there is no change is suggested in the Specifications / Guidelines of MNRE / BIS / BEE / MOP.

That, All Terms and Conditions, Scope of Work / Specifications mentioned in Notice for RFP No. / RFP Document No. / Letter of Intent No. For (Brief Description of Assignment / Site) issued by “Party No.2”, which have been agreed upon and also the Condition(s) contained in the Correspondence(s) made in this matter will also form part of this Agreement.

That, in the event of any dispute or difference whatsoever arising under this Contract Agreement, the same shall be referred to Arbitrator which shall be as per the provisions of the Indian Arbitration Act, 1940 and the Rule(s) there under. All the proceedings under arbitration will take place in Bhopal. The award in such arbitration shall be final and binding on both the parties. In this case, the arbitrator shall be secretary, Energy department, Govt. of Madhya Pradesh / Managing Director, M.P. Urja Vikas Nigam Ltd., Bhopal.

The agreement will be valid up to **31.12.2010**. The validity period may be extended further with the Mutual Consent on unchanged Terms & Condition(s), Specification(s) and Rate(s) up to one year.

For, the matter(s) of any dispute between the “Party No.1” and “Party No.2” shall be subjected to Bhopal jurisdiction.

**That, this agreement executed between the parties who affix their signatures at Bhopal, in witness whereof the parties hereto have signed the agreement:**

**Witnesses;**

**Party No.1**

**1.**

**Party No.2**

**2.**

Format for Covering Letter

(To be submitted along with the Cover Envelope containing Technical / Financial Proposal against RFP)

To,

**Shri Shrikant Deshmukh**  
Executive Engineer,  
Head Office,  
MP Urja Vikas Nigam Ltd.,  
Urja Bhavan, Main Road No.2,  
Near Bus-stop No.5, BHOPAL – 462016  
PHONE # 0755-2553595, 2556566, FAX # 0755 – 2553122  
E-Mail: cmpuvn@bsnl.in

**Subject: Participation for Notice for RFP No. \_\_\_\_\_ / RFP**  
**Document No. \_\_\_\_\_.**

**Ref: Our Letter / E-mail No. \_\_\_\_\_ Dated - \_\_\_\_\_.**

Dear Sir,

We hereby confirm the following:

1. The Proposal is submitted herewith by (*name of the Participating Company*) in accordance with the conditions stipulated in the RFP Document.
2. We have examined in detail and have understood all the terms and conditions stipulated in the RFP Document issued by MPUVN and in any subsequent communication sent by MPUVN. Our Proposal is consistent with all the requirements of submission as stated in the RFP Document or in any of the subsequent communications from MPUVN.
3. The information submitted in our Proposal is complete, is strictly as per the requirements as stipulated in the RFP Document, and is correct to the best of our knowledge and understanding. We shall be solely responsible for any errors or omissions or misrepresentations in our Proposal.
4. We confirm that our Proposal contains / does not contain (*strike out whichever is not applicable*) Deviations / Conditionality.
5. We confirm that all the terms and conditions submitted in our Proposal are valid for acceptance during the period of Proposal Validity.
6. We as the Participant, designate Mr. / Ms. (*mention name, designation, contact address, phone no., fax no., etc.*), as our representative who is Authorized to perform all tasks including, but not limited to providing information, responding to enquiries, entering into contractual commitments / agreements on behalf of the Participant.
7. We confirm that we shall adhere to the time frame for completion of the Project, as specified in the RFP.

**For and on behalf of:**

**Signature:**

**(Authorized Signatory)**

**Name of the Person / Designation:**

**Name of the Participant / Address of the Participant: Company Seal:**