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Ref No. MPUVN / RFP – Notice / SPVPP- SADP/ 2009-10 / Bhopal, Dt.13/01/2010

MINUTES OF PRE-BID MEETING

RFP REFERENCE NO.3079 DT. 02-01-2010 HELD ON 13-01-2010 AT 12-30 PM IN THE CONFERENCE HALL OF MP URJA VIKAS NIGAM LTD., BHOPAL

(1) **Eligibility Criteria and Check List:** Eligibility Criteria was explained to all the aspiring Participants in details, and the Check-list given at page - 5 of RFP document was also explained (which is required to be completely filled in by aspiring participants). It was clarified that the mandatory formalities that are mentioned with (*) mark in the check list, are to be necessarily complied while submitting the proposals. The Participants were requested to ensure that all requisite information is duly complied and undertaking to this effect is provided on Check-list with signature and company seal affixed.

(2) It was informed to the participants to carefully go through the page 11 of RFP documents wherein directives for preparation and submission of proposals are elaborated. Especially about the introduction of one extra additional envelope in this RFP documents containing categorically the documents pertaining to eligibility criteria. The participants were requested to follow the instructions explained at this page and accordingly submit their proposals in four different envelopes all placed in single envelope.

(3) It was explained that original participants in this RFP shall have to be an Indian Manufacturer of Mono/Multi-crystalline SPV modules of 75 WP or more with National and International Qualification Certification. However, their state-level dealer in MP may also participate with clear-cut consent from the Original Participant on the format for declaration given at page No. 24 of RFP document. It was further clarified that responsibility of supply, installation, commissioning and O&M / Service during 2 years warranty and 3/5 years CMC shall be lying with original participant. The Participants were also requested to submit copy of the agreement entered with the Original participant in support of all the above points.(First envelope)

(4) Test Report(s) for SPV Module(s) proposed under RFP shall have to be enclosed with Proposal. However, Test Report(s) for other components and sub-components can be furnished at later stage / before signing of contract agreement / when asked for.

(5) It was clearly mentioned at various places in the RFP document that aspiring participants should come with systems configuration filled in format given at Page No.18 of RFP document. But, it was observed that the attendees did not bring the requisite information. It was explained categorically that in case any aspiring participant fails to submit the offer in requisite format / with full details, their proposal shall be rejected.

(6) It was explained that Proposal(s) submitted shall be evaluated on the basis explained at Page No. 9 of RFP with 50 as qualifying marks. Proposals securing less mark shall be rejected.

(7) Participants were explained about the scope of work and specifications in detail. Some of the specific clarifications are given below:

(7.1) It was informed that the power conditioning unit in SPV only configurations should contain provision for charging by AC Mains during night only with a settable timer for 2 / 4

/ 6 hours charging. In case power supply goes off during battery charging by AC Mains during night, the timer should also stop or resume.

(7.2) System Design Configurations given on page No. 13 and 14 were explained in detail. It was explained that the capacities mentioned thereof are based on theoretical calculations and give minimum requisite capacity of battery bank, inverter, charge controller, SPV array etc. Participants should necessarily fill in their configurations in the format given at page No. 18 of RFP document failing which the proposal shall be rejected.

(7.3) It was informed that the battery bank capacity has been evaluated on the basis of 50% DOD. It was advised that such provision has been kept deliberately to have consistent output from battery bank for longer battery life. It was explained that a reset switch should be provided on PCU to allow deep discharge of batteries up-to 80% in case of emergency arising at user's end.

(7.4) The system voltages as mentioned at page 14 of RFP documents be adhered. However, if at later stage any participant so desires to change the system operating voltage, the same may be considered only if all the system parameters/Hardware remain unchanged and only after prior approval from MPUVN.

(7.5) The issue of over all VA Hr capacity of Battery Bank with respect to AH Capacity and no. of 2V Cells was discussed in details, accordingly the no of 2V Cells for the respective capacities have been revised. The revised table of RFP Doc. page no 14 is enclosed herewith. The participants are requested to submit their proposals as per the same.

(7.6) Back up hours mentioned at page 15 point 6.3.(2) be read as 24 hours instead of 12 hours.

(7.7) For the purpose of keeping a reliable track-record of the system's performance, provision of port for data-logger is required to be made in the PCU. Proposed Port for the Data logger shall monitor following items on hourly basis -

1. Date (DD/MM/YY), Time (Starting from 00.00 hrs)
2. SPV Power Supply Voltage - V DC
3. SPV Power Supply or Charging Current - Amp DC
4. Battery Bank Voltage - V DC
5. AC Mains Voltage or Charging Current - V AC/Amp DC
6. AC Power consumed - Kw.Hr.
7. System Output Voltage or Current - V AC/Amp AC
8. Power Delivered - Kw.Hr.

(7.8) Out-door & In-door enclosures shall comply with IP 65 & IP 55 standards respectively.

(8) It was informed that the MPVAT on Renewable Energy Device or Equipments has been exempted from 1st August 2009. Please refer M.P. Gazette (Extra Ordinary) No. 380 Dated 1 August 2009.

(9) It was announced loud & clear that no deviations shall be allowed in terms & conditions of payments under this RFP.

(10) Meeting ended with vote of thanks to participants & representatives.

TECHNICAL DETAILS OF SYSTEMS: . (The revised table of RFP Doc.)

1. Battery Bank:

1	Load (VA)	50	100	200	300	400	500	600	700	800	900	1000
2	Nominal Battery Voltage	2	2	2	2	2	2	2	2	2	2	2
3	Battery Bank Voltage:	12	12	12	24	24	48	48	96	96	120	120
4	No. of Batteries	06	06	06	12	12	24	24	48	48	60	60
5	Autonomy (Hrs)	24	24	24	24	24	24	24	24	24	24	24
6	Maximum DOD of Battery Bank (%)	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
8	Battery's Columbic Efficiency (%)	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
10	Inverter Efficiency (%)	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
12	Minimum Battery Bank Capacity- VA Hr	3158	6316	12632	18948	25264	31578	37894	44210	50526	56842	63158
13	Minimum Ah Rating of C-10 Battery	264	526	1052	790	1052	658	790	460	526	474	526

2. Inverter:

1	Load (VA)	50	100	200	300	400	500	600	700	800	900	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
3	Input Voltage:	12	12	12	24	24	48	48	96	96	120	120
4	Max. Input Current (DC):	5	10	21	16	21	13	16	9	10	9	10
5	Output (1Φ-VAC):	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
7	Minimum Rated capacity:	69	139	278	417	556	694	833	972	1111	1350	1389
8	No Load Protection:	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
10	Indicators / Displays / Alarms:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

3. SPV Array:

1	Load (VA)	50	100	200	300	400	500	600	700	800	900	1000
2	Daily Power Requirement:	1579	3158	6316	9474	12632	15789	18947	22105	25263	28421	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	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
5	Minimum SPV Array Capacity :(Watts)	487	975	1949	2924	3899	4873	5848	6823	7797	8772	9747
6	Required SPV Array Capacity : :(Watts)	500	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
7	Module Voltage (Voc)	21	21	21	21	21	21	21	21	21	21	21
8	Nominal Array Voltage	16.44	16.44	16.44	32.88	32.88	65.76	65.76	131.52	131.52	164.4	164.4
9	Array Current:	30	59	119	89	119	74	89	52	59	73	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
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
12	Charge Controller Rating:Amp.	39	77	155	116	155	96	116	68	77	69	77
13	C-Rating	10	10	10	10	10	10	10	10	10	10	10

Note: The Charge Controller should have provision for charging the Battery Bank through AC Mains during night hours as per details given in specification sheet.

Signed on behalf of RFP evaluation Committee / Dt.13/01/2010
(Shrikant Deshmukh)
Executive Engineer

List of Participant(s) enclosed:

S.No.	Name of participants	Name of the Organisation & address
1.	Shri Prashant Mishra	M/s. CIMS(P) ltd. Bhopal
2.	Shri Vikas Barve	M/s. Sun Technics Energy
3.	Shri R. Awasthy	M/s. CIMS power Tech. Pvt. Ltd. Bhopal
4.	Shri Santosh Kumar	M/s. Emmvee Solar Systems Pvt. Ltd.
5.	Shri Samujja Ganguly	M/s. Vikram Solar Pvt. Ltd., Kolkatta.
6.	Shri Aditya Narayan	M/s. Entegra Ltd., Bhopal
7.	Shri Vinay Lokhande	M/s. Linkage Technologies, Bhopal.
8.	Shri M. Bhavsar	M/s. Hingloj Energy Systems (P) Ltd., Bhopal
9.	Shri M. Kutty	M/s. Rashmi Industries, Bangalore.
10.	Shri Ispat Ray	M/s. Anu Solar Power Pvt. Ltd., Bangalore.

Important Note:- PARTICIPANTS ARE REQUESTED TO SUBMIT A COPY OF MINUTS OF PRE-BID MEETING DULLY SIGNED AND WITH COMPANY SEAL AFFIXED WITH THEIR PROPOSAL IN ENVELOPE NO -1 (Envelope for "Minimum Eligibility Criteria")