

**OFFICE OF THE DEPUTY COMMISSIONER / CHIEF EXECUTIVE OFFICER
LADAKH AUTONOMOUS HILL DEVELOPMENT COUNCIL LEH LADAKH**

TENDER NOTICE NO: LREDA / WM /T-1/ 2009

WORK: Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in
Leh District of Jammu and Kashmir.

Volume -I

Technical - Bid

Name of Firm

Signature of Issuing Officer

Phone- 01982- 252010, 255733 Fax: 01982- 252106

INDEX

S. No.	ITEM	Page No
1	Check List	3
2	Tender Notice	4
3	Tender Form-1	5
4	Tender Form-II	6
5	Instruction to bidder	7-8
6	Schedule of General Particulars of bidder	9
7	Agreement	10
8	General conditions of contract	11-13
9	Special conditions of contract	14
10	Scope of work	15
11	Technical specification	16-18
12	Other Conditions	19-20
13	Price Bid	21-24

CHECK -LIST

NAME OF WORK: Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir.

NAME & ADDRESS OF BIDDER:

SNO	Description (submitted or not)	Yes	No
1.	Earnest Money Details		
2.	Turbine Test certificate		
3.	Financial Status		
4.	Income Tax Certificate/Clearance		
5.	Sales Tax Certificate/Clearance		
6.	Past Experience		
7.	List of Technical Staff		
8.	Any other information		

Signature of Bidder

**OFFICE OF THE DEPUTY COMMISSIONER /
CHIEF EXECUTIVE OFFICER LADAKH AUTONOMOUS HILL DEVELOPMENT
COUNCIL LEH LADAKH**

Tender Notice

Sealed & Separate Tenders are invited on behalf of the H.E. Governor Of Jammu And Kashmir from reputed contractors/ firms/registered Societies, having turbine test certificate from Alternate Hydro Energy Center (AHEC), IIT, Roorkee, for "**Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir**"

The scope of the work includes Design, Supply, Installation & Commissioning of various equipments/ systems such as Penstock Pipe, Electromechanical Equipments, Distribution Lines and End-Use equipments required for up-gradation of existing watermills. Details are as under:

Cost of Document	EMD	Last date of Receiving	Date of Opening
Rs. 2200/-	Rs. 50000/-	07-10-2009	08-10-2009

The tender document can be obtained from the above mentioned Office of the undersigned, during office hours on any working day up to 22.09.2009 by paying the cost of tender document through Bank draft in favour of Deputy Commissioner Leh Ladakh. The tender documents can also be downloaded from <http://www.leh.nic.in> and the cost of tender documents can be deposited through Bank draft in favour of Project Director LREDA Dehradun, at the time of submitting the tenders.

The tenders shall be received at Deputy Commissioner Office Leh Ladakh. The tender should be submitted in two separate sealed envelops. i.e. part-I TECHNICAL BID with EMD as mentioned above, in the form of FDR pledged to Deputy Commissioner Leh and Part-II FINANCIAL BID.

The technical bid shall be opened on above-mentioned date & time at Deputy Commissioner Office Leh. The financial bid of only those bidders who qualify in technical bid shall be opened, for which a suitable date shall be announced on the date of the opening of the tenders. The Deputy Commissioner Leh reserves the rights to reject any or all the tenders without assigning any reason.

TENDER FORM-I

To,
The Deputy Commissioner/
Chief Executive Officer
Ladakh Autonomous Hill Development Council Leh.
Leh Ladakh
JAMMU AND KASHMIR
Tel: 01982-252010, 2555733, Fax: 01982-252016

Subject: "Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir."

Dear Sir,

In compliance with your invitation for tender, the undersigned hereby offers for "Design and Supply of Improved Watermills at various Districts in Jammu and Kashmir" in accordance with the provisions of the contract and agrees that upon receipt of written notice of award of the contract and within 07 calendar days, the undersigned will execute contract form in accordance with the tender as accepted.

The undersigned further agrees that if awarded the contract, we will commence this work within 15 days after the date of receipt of notice to proceed with the work and that we will carry out the work within the time limit fixed in accordance with the conditions of the contract.
Earnest Money for Rs 50,000.00 (Rupees Fifty Thousand only) is enclosed as bank draft no. Date: Payable at Name of bank

Bidder is

- A corporation organized in the state of
- A registered partnership firm consisting of Partners
- An individual trading house as
- A registered Society

Signature

Title

Address

Tender Form-II

- | | |
|--|---|
| 1. Tender notice no. | LREDA / WM /T-1/ 2009 |
| 2. Particulars of work | "Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir". |
| 3. Completion period | 12 Months (From the date of award of work) |
| 4. Price of tender document | Rs 2200/- (Rs Two Thousand Two Hundred only)
(inclusive of trade tax) |
| 5. Amount of Earnest money | Rs 50,000.00 (Rupees Fifty Thousand only) |
| 6. Period of validity of Tender for acceptance | 3 Months |
| 7. Date of commencement of sale of tender document | 26.08.2009 |
| 8. Last date for sale of tender | 22.09.2009 |
| 9. Last date and time for receipt of bids | 07.10.09 upto 2:00 PM |
| 10. Time and date of opening of technical bids | 08.10.09 at 3:00 PM |
| 11. Venue of opening of tender | Deputy Commissioner Office, Leh -Ladakh J&K. |

Seal of company

(Signature of Bidder)

Date:

PART-A
INSTRUCTION TO BIDDER

- A.1 Tender should be submitted in two volumes (Volume-I for Technical and Volume-II for price bid) complete with all respect in all schedules, documents etc. of the tender documents issued by LREDA.
- A.2 Tenders should be received in Deputy Commissioner Office Leh Office on the date and time as mentioned in tender form.
- A.3 Deputy Commissioner Leh, reserves the right to split up the orders before various bidders and also the right not to except the lowest or any other tenders or all the tenders in whole or in part without assigning any reason for such non acceptance.
- A.4 Any tender not accompanied by earnest money will be disqualified and no further consideration will be given to such tender. Bidders may note that no relaxation in this regard will be made.
- A.5 Validity of the offer will be three months after the date of opening of tenders. Without this validity the tenders will be rejected .The validity must be mentioned in the envelope otherwise the tender will not be opened.
- A.6 Before submission of the tender, bidders are required to make themselves fully conversant with the technical specification, format of identification reports etc. so that no ambiguity arises a later date in this respect .The bidder may visit the proposed site to make themselves fully conversant with the site and offer their rates accordingly.
- A.7 All information of the tender shall be in English, information in any other language will be accompanied with its translation in English. Failure to comply with this may disqualify the tender.
- A.8 The tender must contain the name, residence and places of business of this person or persons submitting the tender and may signed and sealed by the bidder with his usual signature.
- A.9 If the bidder find discrepancies in or omissions from the specifications or other documents or if he is in doubt as to their meaning he should at once intimate LREDA and obtain clarification in writing prior to submitting the tender.
- A.10 Any approach from the tender representative or his agent trying to influence the decision on the tender, officially or otherwise, shall render the tender liable to be summarily rejected.
- A.11 The prize offered should be inclusive of all charges what so ever may be.
- A.12 Tender should be submitted in to two separate sealed envelopes as mentioned below:
 - A12.1 First envelope should bear tender no. and super scribed “EM/TC” should contain earnest money and terms and conditions. All the paper of tender documents except price bid duly signed should be submitted in the first envelope. All financial and technical conditions should be clearly explained and submitted in the first envelope. Requisite earnest money in the form of cash deposit receipt with LREDA/Bank draft/FDR pledged in favour of “Director, LREDA”.

- A12.2 Second envelope bearing tender specification number and super scribed “Price Bid” should contain only price bid. Any financial conditions, payment terms, rebate etc mentioned in price bid will make the tender invalid. Therefore, it is in the interest of the bidder not to write anything extra in part -2 except price.
- A.13 The procedure of opening of the tender shall be as under:-
- (a) First envelope bearing tender specification no. and super scribed “ EM&TC “ shall be opened on the date as mentioned in tender notice by Deputy Commissioner Leh, or his Representative in the presence of tenders who choose to be present
 - (b) Second envelope bearing tender specification number and super scribed “Price bid” shall be opened on the date and time as decided by the tender committee. After opening of FIRST ENVELOPE, second envelope of only those bidders shall be opened whose part1/first envelope shall be financially cleared and found technically suitable.
- A.14 The tenders must be complete in all technical and commercial respect and may contain certificates, drawings informative literature etc. as required in the specification .Any other queries made should promptly replied within following time schedule
- A.14.1 Telegraphic/ FAX query required to be replied by telegram /FAX- 4 days
- A.14.2 Telegraphic/FAX query required to be replied by letter -10 days
- A .14.3 Quarry letter to be replied by letter 15 days.
- A.15 Erasers and other changes should be initiated by the person /persons signing the tender
- A.16 In the event the successful bidder fails to sign the contract with LREDA within specified time or withdraws his offer within the validity period or fails to accept the order for any reason whatsoever, then earnest money deposited by him shall be forfeited by LREDA.
- A.17 The bidder should submit price bid duly signed on the original schedule attached with these tender documents. This price schedule shall have to be submitted in second envelope super-scribed as “Price bid”.
- A18 Each page of this tender document should be signed by the bidder.
- A19 The bidder should submit form F1 attached with this tender document duly completed in all respect while submitting part -1of the tender document.

Form -F1

SCHEDULE OF GENERAL PARTICULARS OF BIDDER

1. Name of the bidder :
2. Postal address :
3. Telegraphic address :
4. Telephone/Telex/Fax etc :
5. Name and designation of the representative of the bidder to whom all reference shall be made to expeditious technical coordination :
6. Amount and reference of earnest money deposited :
7. Financial capacity of the contractor/firm for carrying out the work (Annual Turnover during last three years of contractor/ firm)
8. Has anything /extra than price of one item (As mentioned in price schedule) has been written in the price schedule
9. Experience of executing similar type of projects on turnkey basis.

AGREEMENT

(On minimum Rs. 100/- Stamp Paper)

This Agreement made on the day of Two thousand and Nine between M/s..... Thereinafter referred to as “the contractor” on the one part and the **LADAKH RENEWABLE ENERGY DEVELOPMENT AGENCY, LEH** (hereinafter called as “LREDA”) on the other part.

Where as LREDA decided to award the work of "**Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir**" (hereinafter called “works”) and for this purpose the details of the work have been specified in general conditions of contract, Scope of the work, Technical particulars and price schedule and Annexure. For the purpose these documents have been signed by ShriOn behalf of the contractor and by LREDA and which shall form the part of this contract (Although separately set out herein) and are included in the expression “Contract”.

And whereas LREDA have accepted the tender of the contractor for carrying out the work of "**Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir**" on rate contract basis as per the Price Schedule and on the terms and conditions as mentioned in contract .

Now therefore these present witnesses and the parties aforementioned hereby agree and declare that in consideration of the requirement of the said work and satisfactory performance, the LREDA will pay the contractor an amount specified in the Work Orders issued by District Level Offices of LREDA from time to time under the provisions of this rate contract

In witness whereof the parties have signed this deed hereunder

Signed

Signed

(For &on behalf of the LREDA)

(For &on behalf of the contractor)

Witness
In the presence of 1.

And of 2.

PART - B
GENERAL CONDITIONS OF CONTRACT

- B.1 In construing these general conditions, special conditions and general technical requirements, etc., the following words shall have the meaning herein assign to them unless there is anything in the subject/contact in consistent with such construction.

LREDA shall mean the Project Director or his representative of Ladakh Renewable Energy Development Agency (LREDA) with Head Office at Leh and shall include its successors and assignees.

The contractor shall mean the bidder whose tender shall be accepted by Deputy Commissioner, Leh and shall include such bidders hires, legal representative, Successors and Assignees.

[Govt. shall means the Government of Jammu and Kashmir.](#)

- B.2 The Bidder shall be deemed to have carefully examined to general conditions, special conditions, general technical requirements, instructions etc. If he shall have any doubt as to the meaning of any portion of any conditions/ specifications etc., he shall before signing the contract said forth the particulars thereof and submit them to Deputy Commissioner Leh in order that such doubts may be removed.
- B.3 Deputy Commissioner may distribute the work among the other firms/contractors on the lowest price.
- B.4 A formal agreement shall be entered between LREDA and the Bidder for the proper fulfillment of the contract. The expenses of completing and stamping the agreement shall be paid by the contractor.
- B.5 The work shall be completed within **TWELVE MONTHS** from the date of award of the work order/date of start whichever is earlier failing which penalty at the rate of 1% per week subject to maximum of 10% shall be imposed.
- B.6 The offer shall be considered as valid up to 3 months after the date of opening of the tender. In case bidder withdraws his offer or fails to accepts the order for any reason whatsoever then the earnest money deposited shall be fore fitted by Deputy Commissioner Leh.
- B.7 The general technical requirements mentioned are mainly for the guidance of the bidder. These requirements of necessity include some specific elements of construction and material but are not intended to preclude ingenuity of designs or other improvements. If the bidder proposes any deviations from this requirement these will be considered provided they are necessary either to improve the utility, performance and efficiency or to secure over all economy.
- B.8 The bidder shall have to comply with all rules, regulations, laws and byelaws enforced by local and state Govt. police and also the organization in whose premises the work has to be done. LREDA shall not have any liability on this account.
- B.9 The high court of judicature at Srinagar/ Jammu and courts subordinate there to at Leh shall alone have jurisdiction to the exclusion of all other courts.
- B.10 The Bidder shall not, without the consent in writing of LREDA, unreasonably withheld, assign or sublet this contract or any substantial part thereof to any other party.

- B.11 The right of the Bidder to proceed with work shall not be terminated nor with the contract price reduced herein because of any delay in the completion of the work due to unforeseen causes beyond the control and without fault and negligence of the Bidder including (but not restricted to) act of God or public enemy, action of Government in its sovereign capacity, floods, epidemics, strikes, lockouts, fires and accidents, In the event of any of the aforesaid contingencies LREDA will be promptly kept informed by the Bidder by fax/telegram followed by confirmation in writing with documentary proof within fifteen days of commencement and cessation of force measure circumstances. Under such circumstances reasonable extension of time shall be granted by LREDA.
- B.12 If the Bidder shall neglect to execute the work with due diligence and expedition to, or shall refuse or neglect to comply with any reasonable orders given to him by LREDA in connection with the work, or shall contravene any provision of the contract, LREDA may give seven days notice in writing to the contravention complained of and if Bidder shall fail to comply with the notice within reasonable time, then in such case LREDA shall be at liberty to employ other agency to perform such work as the Bidder may have neglected to do or if LREDA shall think fit it shall be lawful for him to take the work wholly, or in part, out of contractor's hand and give it to another person on contract at reasonable price. If the cost of executing the work as aforesaid shall exceed the balance due to the contractor, and the Bidder fails to make good the deficiency, LREDA may recover it from the Bidder in any lawful manner.
- B.13 LREDA shall have at all reasonable time access to the work carried out by the Bidder against this contract.
- B.14 All the work shall be carried out by the Bidder to the reasonable satisfaction of LREDA.
- B.15 The bidder shall provide satisfactory evidences concerning the Following that he-
- a) Having valid test certificate for Turbine issued by AHEC, IIT, Roorkee.
 - b) Has adequate financial stability and status to meet the financial obligations pursuant to the scope of works.
 - c) Has adequate field service setup to provide necessary field execution.
 - d) Has minimum annual turnover of Rs. 10.00 lacs during last 3 years.

These general conditions shall apply to the extent that provisions in other parts of the contract do not supersede them.

- B.16 If at any question, dispute or differences whatsoever shall arise between LREDA and the bidder in connection with this agreement except as to matters the decision for which has been specifically provided, either party may forthwith give to the other notice in writing of the existence of such question, dispute or difference and same shall be referred to the sole arbitration of the Secretary, Science & Technology Govt. of Jammu and Kashmir. This submission shall be deemed to be submission to arbitration within the meaning of The Arbitration and Conciliation Act 1996 and rules made thereafter or any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this clause. The award of the arbitrator shall be final and binding on the parties. Work under the agreement shall continue during the arbitration proceedings, unless the arbitrator otherwise directs.
- B.17 LREDA may at any time, by notice in writing to the Bidder either stop the work altogether or reduce or cut it down. If the work is stopped all together, the legitimately incurred by him as on preparation of the execution of the work up to the date on which such notice is received

by him. such expenses shall be assessed by LREDA, If the work is cut down the Bidder will be paid for the work as so cut down, but in neither case will be paid any compensation whatsoever for the loss or profit which he might have made if he had been allowed to complete all the work included in the contractor.

- B.18 If any force measure arises during the construction of watermill i.e. beyond the control of bidder, LREDA may consider for time extension for that period. However no price escalation will consider.
- B.19 The Bidder shall be responsible to comply with the provision of labour laws enforce in the state of Jammu and Kashmir, including the minimum wage act or any enactment in suppression, extension or modification thereof.
- B.20 Any work not covered in the scope of the work but essentially required for proper completion of the work and commissioning of the scheme shall be carried out by the Bidder on mutually agreed rates.
- B.21 The quantities are tentative (approximately 100 Nos.) and may vary widely for which no claim whatsoever shall be entertained by LREDA expect specially mentioned in the agreement.

PART - C
SPECIAL CONDITIONS OF CONTRACT

- C.1 Tenders only of the firms who have a valid test certificate of Turbine issued by AHEC, IIT, Roorkee shall be considered.
- C.2 The bidder should quote their rates as per specifications laid down by LREDA mentioned in the tender documents.
- C.3 This tender is **for RATE CONTRACT** and the rates FOR Leh, systems/equipments shall be approved. Work orders from time to time as per beneficiary demand and requirement will be awarded from Offices of LREDA to any firm so approved at the approved rates. Therefore The Deputy Commissioner Leh may accept the lowest rate of the eligible bidder and for this purpose; negotiations may be held with the eligible bidders. LREDA can award order for Design, Supply, Installation & Commissioning of Improved Watermills (Mechanical or Electromechanical use) at various Sites in Leh Districts of Jammu and Kashmir to any of its approved Supplier. However LREDA is not bound to award work order for any site to any one specific firm approved in tender, thus any firm approved under this tender may or may not get any order from LREDA during the agreement period.
- C.6 The bidder should be capable of carrying out the work. The entire work from concept to commission and should expect no help in this regard from LREDA.
- C.7 All clearance, permissions etc. for carrying out the work shall have to be obtained by the bidder from competent authorities. All local problems shall have to be tackled by the tenderer. LREDA may extent help only by writing letters to Leh authorities.
- C.9 All equipments supplied by the Bidder will be guaranteed for 12 Months operation of the equipments from the date of commissioning of improved watermill against any defect of material, workmanship, improper construction, designing etc. Bidder shall rectify any such defects within 15 days of intimation of LREDA to Contractor, failing this LREDA will be free to rectify / repair such defects at the cost of Bidder and will adjust the same from the security/ performance guarantee of contractor. In case expenditure occurred on such work exceed the security/ performance guarantee, LREDA shall recover it from the Bidder in any lawful manner.
- C.10 The Turbine Generator Set efficiency at rated head should not be less than 40% in any case. However, LREDA has the right to reject the turbine and or generator if the test values of T-G Set efficiency found below 40% at field/site test.
- C.11 All equipments/material will be guaranteed for operation at its designed/ rated capacity and efficiency, failing which penalty equal to 2% of the contract cost for each 1% drop in guaranteed output will be imposed to the contractor.

PART - D
SCOPE OF WORK

The scope of work includes "Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir" as mentioned below:-

1. Civil Works (foundation for proper installation)
2. Penstock Pipe (supply, laying and installation).
3. Design, Supply and installation of E&M equipments.
4. Supply and erection of Distribution Line Work.
5. Supply and installation of end-use equipments.
6. Proper commission of all equipments/works related from point no. 1 to 5.

Note: The civil works required for construction of diversion, feeder and power channel, forbay tank and power house will be done by the concern user/beneficiary.

PART - E
TECHNICAL SPECIFICATIONS OF
IMPROVED WATERMILL EQUIPMENTS/WORKS

A) APPROXIMATE QUANTITIES OF VARIOUS ITEMS REQUIRED FOR WATER CONDUCTOR SYSTEM IN IMPROVED WATERMILL

SN	ITEM	QUANTITY
1	Penstock Pipe	
a.1	Penstock pipe (MS Steel) 15-20 cm dia	10 m.
	OR	
a.2	Penstock pipe (PVC/HDPE- 6 Kg/cm ²) 18-23 cm dia	10 m.

B) EQUIPMENTS AND SYSTEMS REQUIRED FOR A TYPICAL IMPROVED WATERMILL FOR POWER GENERATION AND UTILIZATION

Parameters

Power Output	:	Up to and below 5.0 kW
Head range	:	4 -15 m
Discharge range	:	100 -350 LPS

1.0	TURBINE
1.1	<u>Turbine Required For Electrical/Mechanical or both Output:</u> The bidder is required to select / design the cross flow turbine / pump as turbine (PAT) for a design head and design discharge for the requisite selection. Runner dia should be in the range of 0.20 - 0.30 m and runner width should be of 0.20 - 0.30 m. Each turbine should be capable of generating power as per available head and discharge. The turbines should be capable of operating between 110% to 40 % variation of rated discharge. The turbine shall be so constructed as to allow all the removable parts to be dismantled conveniently. All the components shall be properly arranged and shall be easily accessible for O& M. MINIMUM EFFICIENCY OF THE TURBINE GENERATOR SHOULD BE 40%.
1.1.1	RUNAWAY SPEED
	All parts and bearing should be capable of withstanding for at least two hours ? the runaway speed attained under any combination of head and load conditions with inlet valve fully opened, generator disconnected and unexcited. The occurrence of runaway condition should not damage the turbine parts.
1.1.2	NOISE LEVEL
	Maximum noise level resulting from any of the operating condition shall not exceed 85 dB at any place 1.0 m away from operating equipment in the machine hall.
1.1.3	GENERAL ARRANGEMENT AND CONSTRUCTION
1.1.3.1	RUNNER

	The runner shall be of stainless steel with approximate content 14% chromium & 4 % nickel. It should be either casted or fabricated. The runner should have adequate number of smooth blades. It should be dynamically balanced.
1.1.3.2	SHAFT AND COUPLING
	The turbine shaft should be stainless steel (SS 304) or alloy confirming to Indian standard or equivalent International standard.
1.1.3.3	CASING
	The casing shall be fabricated from welded steel plate/ mild steel plates and shall have suitable sections for ease of transport and its limitations.
1.1.3.4	THE TURBINE BEARINGS
	The turbine bearings should be Anti-friction ball, roller bearing, oil or grease lubricated, pad type or sleeve type. These bearings shall be guaranteed for a minimum continuous operation of 100000 (one lakh) hours and the design and performance shall be proven and established.
1.2	<u>Turbine Required For Mechanical Output (Only):</u> The bidder is required to select / design the vertical axis runner for a design head and design discharge for the requisite selection. Each vertical axis runner should be capable of generating mechanical power as per available head and discharge. MINIMUM EFFICIENCY OF THE TURBINE GENERATOR SHOULD BE 40%.
2.0	ALTERNATOR
	The Alternator should be single phase of any reputed make (i.e. Krilosker/KEL/ Crompton make or other ISI marked). The rating of alternator are given below:
	(i) Rated output (continuous) : 1kW / 2 kW / 3 kW / 5 kW
	(ii) Power factor : 0.8 lagging
	(iii) Frequency : 50 Hz
	(iv) Number of Phases : 1
	(v) Rated terminal voltage between phases : 240 Volts
	(vi) Range of voltage variation : $\pm 5\%$
	(vii) Range of frequency variation : $\pm 5\%$
	(viii) Speed : 1500 R.P.M.
	(ix) Short Circuit ratio : Not less than 0.8
	(x) Inertia constant : Not less than 1.0
	(xi) Continuous overload capacity at rated output and power factor : 10%
	(xii) Runaway speed : At least 1.8 times of the rated speed
3.0	ELECTRONIC LOAD CONTROLLER (ELC)
	For each stand-alone generator, a micro controller based Electronic Load Controller (ELC) shall be provided together with the dummy load connected to it. The ELC should be capable to divert so much power to the dummy load that frequency is kept at nominal value. The ELC should have the following features:- 1. Micro Controller based design with 16X2 digital display. 2. Digital display for output voltage and ballast load % display. 3. Suitable up to 5 kW generator 4. Should have overload/short circuit/over speed protection.

	<p>5. It should be wall mounted.</p> <p>6. Should have protection MCB (32 Amp) with shunt trip coil and a plug for output load (32 Amp.)</p>	
4.0	MONITORING AND PROTECTION, CONTROL/SWITCH GEAR AND METERING	
4.1	GENERAL	
	<p>For each unit one Panel shall be provided. The Panel shall incorporate components for generator protection, indication, current meter, voltmeter, frequency meter, MCB, Phase Meter and kWh meter.</p> <p>The control panel should be made of GI sheet of 20 Gauge.</p>	
4.2	EARTHING	
	<p>For safety of operating persons & for the safety of equipments the earthing of equipments is necessary. Proper earthing shall be done by the bidder as required under IER guidelines & Electrical safety norms.</p>	
5	Drive system	<p>Pulley (2 Nos.), V-grooved, C.I. Pulley for deriving the generator and other machines.</p> <p>V -belt, shaft, bearings</p>
6	Distribution Line	The cables of size 2 core X 6 Sq.mm. capacity shall be used through Miniature Circuit Breaker of at least 5 Amp. for each house
7	End-use Machines	
A.	Agro Processing machines	Operation of Rice huller/oil expeller/ floor mill etc. will be done through pulley. Necessary arrangement with required accessories for operating one of these machines will be supplied and installed by the bidder.
B.	Other Machines (Optional)	For income generating activities one of these machines such as Welding machine/Compressor machine/ Juicer Machine/ Motor Pumps for Water pumping will be operated by the electricity generated from Watermill. Necessary arrangement with required accessories shall be supplied and installed by the bidder.
8.	Specification of End Use Machines	The detailed specifications of these machines are as under;
8.1	Rice huller	ISI Marked, 4 number Size with accessories required for smooth running of machine. (foundation size 800 mm X 500 mm)
8.2	Oil expeller	ISI Marked, Size Zero bolt with accessories required for smooth running of machine. (foundation size 800 mm X 500 mm)
8.3	Floor mill	ISI Marked, Size 16/18" or 18/20" with accessories required for smooth running of machine. (foundation size 800 mm X 500 mm)
8.4	Welding machine	ISI Marked, 100 Amp. capacity installed in trolley.
8.5	Air Compressor	ISI Marked, Size 500 Pond/Sq. inch
8.6	Juicer Machine	ISI Marked, (½ HP rating)
8.7	Motor Pump for Water Pumping	ISI Marked, 2 HP Submersible Pump with wiring and control panel

PART - F
OTHER CONDITIONS

1. Warranty

- i. The bidder warrants that the Goods supplied under the contract are new, unused, of the most recent or current Improved s and incorporate all recent improvements in design and materials unless provided otherwise in the contract. The bidder further warrants that the goods erected under this contract shall have no defect arising from design, materials or workmanship (except insofar as the design of material is required by the LREDA's specifications) or from any act or omission of the bidder, that may develop under normal use of the supplied Goods in the conditions obtaining in the country of final destination.
- ii. This warranty shall remain valid as specified in Special conditions of contract after the goods, or any portion thereof as the case may be, have been erected and commissioned.
- iii. The LREDA shall promptly notify the bidder in writing of any claims arising under this warranty.
- iv. Upon receipt of such notice, the bidder shall, with all reasonable speed repair or replace the defective Goods or parts thereof, without costs to the LREDA.
- v. If bidder fails to remedy the defect(s) within a reasonable period, the LREDA may proceed to take such remedial action as may be necessary, at the bidder's risk and expense and without prejudice to any other rights which the LREDA may have against the bidder under the contract.

2 Performance and Guarantee Test

- 2.1 The final test as to the performance and guarantees shall be conducted at site, by the Purchaser. Such tests will be commenced during Trial Operations.
- 2.2 These tests shall be binding on both the parties of the Contract to determine compliance of the equipment with the performance guarantees.
- 2.3 The available instrumentation and control equipment will be used during such tests and the Purchaser will calibrate, all such measuring equipment and devices as far as practicable. However, immeasurable parameters shall be taken into account in a reasonable manner by the Purchaser, for the requirement of these tests. The test will be conducted at the specified load points and as near the specified cycle condition as practicable. The purchaser will apply proper corrections in calculation, to take into account conditions which do not correspond to the specified conditions.
- 2.4 The guaranteed performance figures of the equipment shall be proved by the supplier during these performance and guarantee tests. If the results of these tests show any decrease from the guaranteed values the supplier shall modify that equipment as required to enable it to meet the guarantees. In such case, performance and guarantee tests shall be repeated within one month, from the date the equipment is ready for retest and all cost for modifications including labour, materials and the cost of additional testing to prove that the equipment meet the guarantees, shall be borne by the supplier.

2.5 The specific tests to be conducted on equipment have been brought out in the Technical specifications.

3. Performance Security

At the time of supply order, bidder / contractor shall have to deposit an amount equal to 5% of each work order value in the shape of FDR/Bank Draft/NSC of equal amount pledge with Project Director, LREDA.

4. Payment terms

The payment to the Bidder shall be made through crossed cheque or bank demand draft as per schedule mentioned below:

1. 50% payment of work order shall be paid after supply of all material/equipments in good condition at site.
2. 40% payment of work order shall be paid after complete installation, testing and commissioning of improved watermill and establishment of service center at district headquarter and availability of spare parts in service center. Performance security (5% of work order value) shall be released at this stage.
3. Balance 10% payment shall be paid after guarantee period of 12 months. However this amount can be released against submission of bank guarantee of equivalent amount valid for 15 months from the date of commissioning.
4. Any price variation shall not be allowed.

5. Insurance

The Bidder shall get insured all equipments and materials at its own cost in the name of the LREDA in such insurance company or companies as may be approved by the LREDA against loss or damage caused by fire, burglary, flood, earthquake and riot and such other risks as the LREDA may require during the period of its storage, installation and commissioning by the Bidder and shall deliver the insurance policy or policies in respect thereof to the LREDA before any payment as aforesaid is made to the Bidder for the same. The Bidder will pay all premium and sums of money for keeping such insurance a foot and will deliver to the LREDA receipts for every such payment within seven days after the same shall have become due.

6. Duties and Taxes

The price quoted should include all taxes and duties custom duty, excise duty, trade tax, C.S.T. local taxes, stamp duty, Income Tax, Surcharge on Income Tax , Service Tax etc. The present applicable duties may also be mentioned for any.

OFFICE OF THE DEPUTY COMMISSIONER / CHIEF EXECUTIVE OFFICER
LADAKH AUTONOMOUS HILL DEVELOPMENT COUNCIL LEH

TENDER NOTICE NO: LREDA / WM/T-1 / 2009

WORK: "Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir".

Volume -II

Price- Bid

Name of Firm

.....

Signature of Issuing Officer

PRICE SCHEDULE

Name of work- Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir.

PART - 1

SN	ITEM	QUANTITY	Rate per Meter	Amount
1	Penstock Pipe			
a.1	Penstock pipe (MS Steel -) 15-25 cm dia, 4mm thick including all related civil works.	10 m.		
a.2	Penstock pipe (PVC/HDPE - 6 Kg/cm ²) 18-23 cm dia including all related civil works.	10 m.		

Signature of Bidder
Seal

Note: If quantity of pipe exceeds/decrease from the said quantities at any site the payment will be made as per actual measurement.

PRICE SCHEDULE

Name of work- Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir.

PART - 2 (E&M WORKS)

S. N.	Equipment / System	Specifications / Type	Rate	Amount
1.	a) Supply, installation and commissioning of Turbine (for electrical/mechanical or both type of output) including all accessories and required civil works.	Cross flow/PAT		
		Runner dia = 0.20- 0.30 m		
		Runner width = 0.20- 0.30 m		
	b) Supply, installation and commissioning of Vertical Axis Runner* including all accessories and required civil works.	Mild Steel/Cast Iron/Stainless Steel		
2.	Supply, installation and commissioning of Alternator	Synchronous Single Phase 240 V, 50 Hz 1500 RPM	1 KW	
			2 KW	
			3 KW	
			5 KW	
3.	Supply, installation and commissioning of Drive system	Pulley (2 Nos.), V-grooved, C.I. Pulley for deriving the generator and other machines.		
		V-belt, shaft, bearings		
4	Supply, installation and commissioning of Electronic Load Controller, Ballast load	Micro controller based ELC with digital display for output voltage and ballast load % display suitable upto 5 kW generator		
5	Supply, installation and commissioning of Monitoring, Protection, Control, Switchgear and metering panel.	Control panel with Current, voltage, frequency meters, MCBs, Phase indicator and kWh meter with all other required protections.		
6.	Supply, installation and commissioning of Floor Mill (ISI Marked) with accessories required for smooth running of machine including all accessories and required civil works. (foundation size 800 mm X 500 mm)	Size 16/18"		
		Size 18/20"		
		Total Cost		

Amount in Words:

Note: Vertical Axis Runner will only be applicable for mechanical output watermill.

Signature of Bidder
Seal

PRICE SCHEDULE

Name of work- Design, Supply, Installation & Commissioning of Improved Watermills at various Sites in Leh Districts of Jammu and Kashmir.

PART - 3 (OPTIONAL ITEMS)

S. N.	Equipment / System	Specifications / Type	Rate per Meter/ Per Equipment (Machine)
1	Distribution Line	Cables size 2 core X 6 Sq.mm.	
		Miniature Circuit Breaker of 2 Amp.	
		15 Amp	
		25 Amp	
		32 Amp	
2	END-USE MACHINES		
A)	Agro Processing machines (As per technical specifications given in scope of work)	Wheat/Barley huller	
		Oil expeller	
B)	Other Machines (As per technical specifications given in scope of work)	Welding machine,	
		Air Compressor machine,	
		Juicer Machine	
		Motor Pump for Water Pumping	

Signature of Bidder: