THE ADMINISTRATION OF UNION TERRITORY OF LADAKH

Kargil Renewable Energy Development Agency

(Renewable Energy Agency of the LAHDC Kargil)

TENDER DOCUMENT

FOR

Supply, Installation & Commissioning
Of
Solar Tubular VRLA GEL Battery Banks of various capacities at various locations across Kargil District

Tender Notice No.: E-tender 18-KREDA of 2021
Dated: 23rd of August, 2021

Project Director/CEO
KREDA,
Near Council Secretariat, Kurbathang, Kargil – 194105
UT Ladakh
01985-232316, 6005654168
kredakargil@gmail.com
www.kredakargil.org

THE ADMINISTRATION OF UNION TERRITORY OF LADAKH
LADAKH AUTONOMOUS HILL DEVELOPMENT COUNCIL, KARGIL
OFFICE OF THE PROJECT DIRECTOR/ CHIEF EXECUTIVE OFFICER
KARGIL RENEWABLE ENERGY DEVELOPMENT AGENCY,

E-Tender Notice: NIT No: 18-KREDA of 2021
Dated: 23.08.2021

For and on behalf of the Lt. Governor of Union Territory of Ladakh, e-tenders are invited from Original Manufactures of Solar Batteries (having experience in Off-Grid Solar/Battery Installations) OR EPC Companies (Experience in Off-Grid Solar/Battery Installations) for **Supply Installation & Commissioning of Solar Tubular VRLA GEL Battery Banks of various capacities at various locations across Kargil District.**

The OEM Company Battery manufacturing should have ISO 9001 & ISO 14001 manufacturing facilities and in case of EPC Company applying, both the OEM battery manufacturing company and the EPC Company should have ISO 9001 & ISO 140001 certified. The tenders should be addressed to the Project Director/CEO, Kargil Renewable Energy Development Agency (KREDA)-LAHDC, Kargil, UT of Ladakh and should reach the office as per the critical date mentioned through registered/speed post/courier service or shall be delivered personally. The tender received after the stipulated date, time shall not be accepted, and the department shall not be held responsible for any postal delay in receipt of tender.

Instructions for bidders:

a. To participate in the bidding process bidder has to get "Digital Signature Certificate" (DSC) as per Information Technology Act 2000.
b. The bidders have to submit their bids online in electronic formats with digital signature. No financial bid will be accepted in physical form.
c. The bidder must quote rates for items only in the prescribed BOQ available on the website.
d. Bidders are advised not to make any change in BOQ (Bill of Quantities) contents. In no case they should attempt to create similar BOQ manually. The BOQ downloaded should be used for filing of the item rate.
e. Tenderers are advised to use "My Documents" area in their use on http://tenders.ladakh.gov.in e-tendering portal to store import documents at 100DPI resolutions with Black & White PDF scan properly.

The detailed NIT/bidding documents, bill of quantities (BOQ), set of items and conditions of the contract and other details can be downloaded from the website http://tenders.ladakh.gov.in only.

The power plants where these battery banks are to be supplied & installed are given at "ANNEXURE-A".

Critical Dates:

1	Date of issue of tender notice	**21.08.2021**
2	Date of Publishing of e-tender	**23.08.2021, 2:00 pm**
3	Period of downloading of bidding documents	**23.08.2021, time 06:00 pm to 09.09.2021, 02:00 pm**
4	Online bid submission start date	**23.08.2021, 06:00 pm**
5	Online bid submission end date	**09.09.2021, 02:00 pm**

6	Last date for receiving the hard copies of technical bid uploaded on the site and samples	**09.09.2021, 02:00 pm**
7	Date & timing of opening of online technical bid	**10.09.2021, 12:00 pm**
8	Date and timing of online opening of financial bids for qualifying bidder	**11.09.2021, 12:00 pm** ***(date & time given is tentative)***

The tender complete in all respect shall be received up to time and date given above and shall be opened on the dates given above in the presence of tenderers or their authorized representatives who wish to be present at the time of opening of tenders. The tender should be submitted in sealed envelopes, i.e. part-1 TECHNICAL & COMMERCIAL with EMD in the form of Demand Draft pledged to Project Director/CEO, KREDA, Kargil and Part-2 PRICE BID proposed in the prescribed BOQ online.

Project Director/CEO
KREDA Kargil

No.: KREDA/SPV/BAT/2021/720-23

Dated: 23.08.2021

Terms and Conditions:

1. Minimum Criterion for Bidding:

The bidder must have following minimum criterion for bidding:

a) The Company should be a Solar Battery Manufacturing Company in India OR Solar EPC Company having authorized dealership from the Original Solar Battery Manufacturing Company in India.

b) The Solar Battery manufacturing bidder must have ISO 9001 & ISO 14001 for *Design, Development, Manufacture and Sales of Valve Regulated Lead Acid Batteries.*

c) In case of Solar EPC Company, the company should have ISO 9001 & ISO 14001 for quality management systems for *Supply, Installation & Commissioning, Servicing and Maintenance of Renewable Energy Systems*, having dealership certificate from the Solar Battery manufacturing company having ISO 9001 & ISO 14001 for *Design, Development, Manufacture and Sales of Valve Regulated Lead Acid Batteries.*

d) The bidder must have minimum Average annual turnover of Rs.70 Lac in last three financial years and 60% of the turnover must be from Solar Photovoltaic.

e) The company should be registered with Registrar of Companies, Govt. of India.

f) The company should be registered with ESI & EPF.

g) The bidder must be a profit making company in last three financial years.

h) The batteries should confirm to the IEC 61427 or IS – 15549 or MNRE Approved test or Govt. Approved Test Certificate; Certificates and complete test reports to be submitted along with the bid. Test report from BIS approved laboratory should be submitted along with the bid.

i) The bidder must have experience of supplying, installing and commissioning Solar Photo-Voltaic Power Plants of minimum cumulative capacity of 200kWp.
OR
Supplying & installing battery bank – 240V, 1200 Ah, VRLA – GEL type @C10 27degree with rack & accessories for more than 3 years in India.

j) The bidder should have minimum Solvency of 50 Lac; certificate from bank is to be submitted. Incase of authorised dealership the documents for authorization certificate, Turnover, Experience, Bank Solvency must be of the bidder participated in the tender and not of the main company. the solvency certificate should not be older than one year from the tender opening date.

k) Successful bidder has to establish a well equipped service centre in Kargil.

2. Scope of Work includes:

a. Supply, Installation and Commissioning of SPV Battery Banks of the rated capacities with related accessories, stands, hard wares, inter cell copper connectors and end take offs, along with recommended spare cells for each bank.

b. Transportation of the new batteries up to site, Unloading at respective sites, dismantling of older battery banks, dumping/placing with care of the dismantled/old batteries at an appropriate place within the fence area of the respective plant.

c. Recommended battery maintenance kit for each battery bank, having cell testers, torque wrenches, safety glows, goggles, petroleum jelly etc.

d. Performance testing of the complete installed battery bank for 5 years faultless operation.

e. The battery bank will be under comprehensive warranty of 5 years from the date of commissioning.

Sites details along with the respective capacities is given/attached at **"ANNEXURE –A"**.

3. Experience of the Bidder:

A comprehensive list of past projects implemented, by the bidder in India, indicating clients, dates, size of projects and any other relevant material should be included in the offer. Companies having experience in execution and operation of solar power plants in Indian states, especially in Leh and Kargil districts will be given preference during technical evaluation.

4. *Document Details:*

(I) ***PART I***: - Part I of the tender should be super-scribed as "***Part I, Technical/Commercial Details for NIT No***" and should Contain:

a. The bidder's ISO 9001 & ISO 14001 certificates; (Battery OEM & EPC both).
b. Compliance Sheet at **"ANNEXURE - C"** to the Guaranteed Technical Specification given/attached at **"ANNEXURE –B".**
c. Test certificate and test report confirm to the IEC 61427 or IS – 15549 or MNRE Approved test or Govt. Approved Test Certificate. Test report from latest BIS approved laboratory should be submitted along with the bid.
d. The bidder must submit the undertaking/certificates for the materials to be supplied as per the Guaranteed Technical Specifications given at **"ANNEXURE –B".**
e. The bidder must have experience of supplying, installing and commissioning Solar Photo-Voltaic Power Plants of minimum cumulative capacity of 200kWp.

OR

Supplying & installing battery bank – 240V, 3000 Ah, VRLA – GEL type @C10 27degree with rack & accessories for more than 3 years in India. List & Purchase Order copy & performance certificates must be enclosed.

f. Proof of Earnest Money.
g. Demand Draft for the purchase of tender document.
h. Certificate of Incorporation of Company.
i. Registration certificate with EPF and ESI.
j. Audited Balance Sheets of last three financial years.

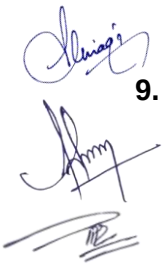
k. CA certificate for profit making in last three financial years.
l. Bank Solvency Certificate of minimum INR 50 lac.
m. GST Registration Proof.
n. Latest GST filling Proof.
o. Proof of annual average turnover of INR 70 lac in the last three financial years and 60% from solar photo voltaic turnover.

5. The tender should be addressed to **The Project Director/Chief Executive Officer, Kargil Renewable Energy Development Agency (KREDA)-LAHDC, Kargil.**

6. Both inner and outer covers duly sealed and superscripted and hard copy sent either under registered cover or cast to the office of the **Project Director/Chief Executive Officer, KREDA-LAHDC, Kargil.**

7. The tenderer shall ensure timely receipt of the hard copy of tender in the office of the **Project Director/Chief Executive Officer, KREDA, Kargil-LAHDC,** the tenders received by hand or by post after due date of receipt of tenders shall not be entertained even if the tender has been posted/ dispatched much before the due date of receipt.

8. The tenders will be opened on the date mentioned in the critical dates in the office of the **Deputy Commissioner/Chief Executive Officer, LAHDC, Kargil, and** on the date of opening of the tenders only the technical & commercial part (part-I) shall be opened in the presence of the tenderers who may be present, the price bid shall be opened only in case of such tenderers who on scrutiny of part-I of their offer are found to have qualified for opening of the price bid on the same day at DC's office or any other day at the discretion of the purchasing committee. In case the due date of opening of the tenders falls on a holiday being declared subsequently, the tenders will be opened on the next working day.



9. Tenders must be complete in all respects; all the terms and conditions of tender including the technical specifications should be carefully studied for the sake of submitting complete and comprehensive tender documents. Failure to comply with any of terms and conditions or instructions of the offer with insufficient particulars which are likely to render fair comparison of tender as a whole impossible may lead to rejection even if otherwise it is a competitive offer/tender.

10. Telegraphic tenders or the tenders of such tenderers who have not purchased tender document shall not be entertained. Any request by post or by hand or telegraphically for any modification addition or deletion etc. in the tenders shall not be considered.

11. The tenderer shall furnish an affidavit duly attested by notary that design of their equipment is free from legal encumbrances and that no legal case of any kind of litigation regarding the patent design is pending in any court of law.

12. The tenderer shall furnish the Tender Acceptance Letter (attached as Annexure) as well duly signed & sealed.

13. No tenderer unless otherwise specified in these specifications, terms and conditions shall be exempted from depositing earnest money.

14. No claim shall be laid against the department either in respect of interest or depreciation in value for the amount of security deposit and or earnest money. In the case of bank deposits the department shall not be responsible for any loss on account of failure of the bank.

15. NEGOTIATIONS:

I. The Distt. Level Purchase Committee (DLPC) reserves the right to conduct negotiations with any tenderer if necessary before finalization of the tender.
II. No tenderer shall have the right to insist for negotiation by the DLPC at any time.
III. During the negotiations, the tenderer should attend either personally or through their authorized representative. The authorized person should produce authorization letter from the authorized person.
IV. The DLPC reserves the right to award the tender in full or in part to one or several parties. The decision of the DLPC is final and binding on tenderers.
V. The DLPC reserves the right to reject any or all the tenders without assigning any reason whatsoever. The decision of the DLPC in this regard shall be final and binding on tenderer and cannot be called into question or challenge in any court of law.
VI. Depending on the lowest rates received, negotiations may be conducted with all tenderers if required.

16. SPECIAL INSTRUCTIONS:

a. The Solar Battery Banks should be as per the Guaranteed Technical Specifications given / attached at “ANNEXURE-B”.
b. Tenders not submitted on the lines indicated above are liable to be rejected without any correspondence.
c. Request for extension in last date of receipts of tenders shall be ignored.
d. The purchaser reserves the right to order additional quantity or reduce the quantity of the material advertised at the time of placement of order for which the quoted rate shall be valid.
e. All legal proceedings in connection with the order, tender will be subject to the jurisdiction of local court of UT of Ladakh alone.
f. The purchaser reserves the right to divide the order between two or more tenders for 100% achievement.
g. In case of any doubt, dispute or differences arising out of the contract, the same shall be referred to the Hon’ble District Court, Kargil, UT Ladakh.
h. The purchaser shall not be bound to accept the lowest or any tender and reserves to itself the right of accepting the whole or a portion of any of the tender, as it may deem fit, without assigning any reason thereof.
i. Any form of canvassing by the tenderers to influence the consideration of their tender shall liable to summery rejection.
j. The condition hereafter deal with systems details and supplementary conditions of the contract in addition to those stipulated in foregoing clauses which along with schedules and annexure, shall be deemed to form part of detail specification for equipment. The tenderer are advised to study and familiarize themselves with the terms & conditions of the tender.
k. All material shall be best quality in the market and be capable of satisfactory operation when exposed to the local atmospheric conditions at site.
l. Force majeure clause shall apply.
m. No other conditions except those mentioned in this tender will be acceptable.
n. Offers not complying with the delivery schedule shall be considered non responsive and shall not be evaluated.
o. Offers not providing clause by clause compliance shall be considered non responsive and shall not be evaluated
p. Offers not submitted as per the BOQ (online) format shall be considered non-responsive and shall not be evaluated.

17. EARNEST MONEY:

1. Tenders shall be accompanied with the earnest money Rs. 2,40,000.00 *(Rupees Two Lac Forty Thousand only)* in the form of CDR/FDR/DD/BG pledged to the Project Director, KREDA-LAHDC, Kargil.

2. Tenders not accompanied with the required amount of earnest money will be rejected and their price bid shall not be opened.

3. The earnest money of the tenderers shall be forfeited if they withdraw their tender or raise the prices of their offer within the validity period. The earnest money shall also be forfeited in case of the tenderers who do not comply with the purchase order placed on them within the validity period of the offer or violate any terms and conditions contained herein for this, purchase order shall be deemed to have been placed from the due date of letter of intent.

4. Earnest money deposit shall be released in favour of the unsuccessful tender(s) within one month after the final acceptance of the tender.

18. SECURITY DEPOSIT:

The successful tenderer(s) shall be required to furnish security deposit equivalent to 3% of the value of the contract in the CDR/FDR/bank guarantee from nationalized/scheduled bank pledged to the Project Director, KREDA-LAHDC, Kargil. This shall be released after installation & commissioning of the battery banks.

Security deposit shall be furnished within one month from the date of detailed purchase order. Failure to do so will make the contract liable for cancellation together with forfeiture of EMD at the discretion of chairman. The EMD of the successful tenderer (s) shall be released after the Submission of the security deposit.

19. WARRANTY:

The Battery Banks including the mechanical structures, related electrical works, and overall workmanship of overall battery bank must be warranted for a minimum of 5 years.

Necessary maintenance spares for five years trouble free operation shall also be supplied with the system.

The supplier shall be responsible to replace free of cost (including transportation and insurance expenses) to the purchaser whole or any part of supply which under normal and proper use become dysfunctional within one month of issue of any such complaint by the purchaser.

In case the supplier fails to rectify/replace the defective/damaged equipment including transit damage, shortages within one month from the date of intimation of such shortage/damage, they shall have to pay interest to Project Director, KREDA-LAHDC, Kargil @ 3% per month on the value of such materials.

20. MAINTENANCE:

The supplier shall be responsible for the maintenance of the battery banks for a period of 5 years (that is during the warranty period) from the date of installation & commissioning of the battery banks. The price quoted by the supplier should include the maintenance for 5 years. The manufacturer will submit a quarterly report about the maintenance of the battery bank.

The bidder shall give the details of their service centers in Kargil district or nearest places and ensure that all the essential men and materials are placed to ensure quick and efficient operation and after sales service.

21. TAXES ETC:

The rates offered by the tenderer will be for supply, installation & commissioning of Solar Battery Bank F.O.R respective sites, including transportation, unloading at respective sites, dismantling of older battery bank and dumping of the same inside the fence area of the plant with complete care, including all applicable taxes (including GST).

In case of failure to deliver in full the required supplies on order, the purchaser shall have the right to make a risk purchase at the cost of supplier and/or cancel the contract and claim reasonable compensation/damages. The contract of supply shall be repudiated if the supplies are not made within the prescribed period and to the satisfaction of the purchasing officer.

The price bid (BOQ) should include GST, income tax, surcharge on income tax, service tax, local taxes etc. Income tax, service tax and other deductible taxes shall be deducted at the source.

22. DELIVERY:

The battery banks should be delivered immediately after the receipt of the supply order. Indicative delivery time along with the offer and shall be mutually agreed at the time of order finalization.

23. VALIDITY:

The tender should be unconditionally valid for a period of six months from the date of opening of the tenders. The quoted price per system as such shall be firm and not variable with the market price. The rates approved as per the NIT year would be valid for further purchase of the systems during the validity period. Any tenderer revising the offer within the validity period, without prejudice to other remedies available with the department is likely to be blacklisted.

24. PAYMENT SCHEDULE:

25% shall be made as advanced payment to the successful bidder, subject to the submission of a bank guarantee for an equal amount valid for a period of one year at least. Another 25% shall be released on receipt of the material at the site, 45% after the installation and commissioning. 5% shall be released against BG for 5 yrs or in five equal installments at the end of each year on submission of documentary evidence confirming successful maintenance during that year.

25. PENALTY:

In case of failure on the part of the tenderer to make supplies and execute the work in full, part thereof within the delivery schedule stipulated in the purchase order, penalty @ 0.5% per week of undelivered portion subject to a maximum of 15% of the cost of undelivered portion shall be levied.

26. CHANGES:

No variation or modification or waiver of any of the terms and provisions of these specifications shall be deemed valid unless mutually agreed upon in writing by both the purchaser and the supplier.

27. PACKING:

The bidder shall be responsible for assuring that all commodities shipped are properly packed and protected to prevent damage or deterioration during shipment. Packaging and

shipping costs shall be borne by the supplier. Customs clearance and all costs and actions associated with import duties, taxes and processing of documents are to be borne by the bidder. The supplier shall be responsible for all the damages/losses if any. All crates shall be marked with proper signs indicating UP and DOWN sides of the packing and also unpacking instructions considered necessary by the supplier.

28. INSURANCE:

The bidder shall provide insurance coverage ex-factory until commissioning, and acceptance for replacement or repair of any part of the consignment due to damage or loss.

29. HEALTH, SAFETY AND ENVIRONMENT:

The bidder shall submit the following before starting the installation of the Battery Bank.

- Safety and Environment policy of the Company
- HSE Manuals for Installation
- Emergency Management Plan

30. MATERIAL INSPECTION:

The material inspection shall be done at the factory location before shipment of the material from factory location. The material inspection charges (boarding /lodging) for three representatives from KREDA have to be borne by the successful tenderer.

31. AGREEMENT:

The successful tenderer(s) shall be required to execute an agreement on a valid stamped paper for strict compliance of the terms and conditions of the contract, vis-à-vis the NIT and the supply order within seven days of placement of the order.

Project Director/CEO,
KREDA-Kargil

"ANNEXURE-A"

List of SPV Power Plants, Proposed under Battery Replacement

SPV Capacity (in KW)	Proposed Battery Bank Specification	Plant Location	Distance from HQ (in KM)
2.5	Solar Tubular VRLA GEL Battery Bank of 48V 500Ah @c10 Gel Type	Jama Masjid Kargil	2.5
2.5	Solar Tubular VRLA GEL Battery Bank of 48V 500Ah @c10 Gel Type	Community Hall Samrah	2.5
2.5	Solar Tubular VRLA GEL Battery Bank of 48V 500Ah @c10 Gel Type	HSS Yurbaltak	2.5
2.5	Solar Tubular VRLA GEL Battery Bank of 48V 500Ah @c10 Gel Type	Jama Masjid Saliskot	2.5
2.5	Solar Tubular VRLA GEL Battery Bank of 48V 500Ah @c10 Gel Type	Sankoo Public School	2.5
5	Solar Tubular VRLA GEL Battery Bank of 96V 800Ah, @c10 Gel Type	Jama Masjid Padum	5
5	Solar Tubular VRLA GEL Battery Bank of 96V 800Ah, @c10 Gel Type	Karsha Monastry	5
5	Solar Tubular VRLA GEL Battery Bank of 96V 800Ah, @c10 Gel Type	PHC Akchamal	5
5	Solar Tubular VRLA GEL Battery Bank of 96V 800Ah, @c10 Gel Type	CHC Shargole	5
10	Solar Tubular VRLA GEL Battery Bank of 120V 1000Ah, @c10 Gel Type	CHC Chiktan	10
10	Solar Tubular VRLA GEL Battery Bank of 120V 1000Ah, @c10 Gel Type	DPL Kargil	10
10	Solar Tubular VRLA GEL Battery Bank of 120V 1000Ah, @c10 Gel Type	Noon Public School Panikhar	10
25	Solar Tubular VRLA GEL Battery Bank of 240V 1200Ah, @c10 Gel Type	Shun, Zanskar	25

"ANNEXURE-B"

Guaranteed Technical Specifications

Technical Specifications

BATTERY BANK

The battery shall be Hi- Performance Valve-Regulated Lead Acid (VRLA) Tubular GEL Battery having container made of Polypropylene Co-polymer

Battery test report should be covered complete test (Water loss, Sulphation, Cycle endurance in photovoltaic, Charge retention, General test condition, Endurance, Capacity, Documentation, Functional charge, safety, making, Deep Discharge Protection, Charge Efficiency, Mechanical Endurance and condition of use) as per latest MNRE specification i.e. Test certificate and test report confirm to the IEC 61427 or IS – 15549 or MNRE Approved test or Govt. Approved Test Certificate.

The tensile strength of the material of the container shall be such that it can handle the internal pressure of the cell in extreme working conditions. The cell shall not show any deformity, cracking or bulge on the side under all working conditions.

The battery shall be provided with a pressure regulation valve, which shall be self- re-sealable and explosion-proof. The valve unit shall be such that it cannot be opened without a proper tool.

The cell covers shall be made of suitable plastic material compatible with the container material and permanently sealed with the container. It shall be capable to withstand internal pressure without bulging or cracking. It shall also be fire retardant.

The batteries shall use 2V,cells with related battery capacity is to be designed at C10 rate with End Cell Voltage of 1.75V / cell.

Charging instructions shall be provided along with the batteries.

Suitable carrying handle shall be provided.

CONSTRUCTION

- Tubular positive plate – Microporous, high acid resistance tubular gauntlets
- Negative plate – Lead alloy grid with long life expanders as to support positive plate.
- Separators – Specially designed microporous separators for lower internal resistance and improved charge acceptance.
- Gelled electrolyte- Made of high surface silica and sulphuric acid, No stratification and no failure due to Partial state of charge (PSOC) operation
- Filled and charged- Ready to use, easier to install, 100% capacity on first discharge
- Shock and vibration resistant design
- Test certificate and test report confirm to the IEC 61427 or IS – 15549 or MNRE Approved test or Govt. Approved Test Certificate. Full test report from BIS approved laboratory should be submitted along with the bid.

TECHNICAL SPECIFICATIONS OF 48V - 500AH GEL VRLA Battery				
S. No.	Description		Details	
1	Rated Capacity at C/10 at 27°C (AH)		500 AH	
2	No of Cells		24	
3	Nominal Voltage (V)		48	
4	OCV at 100% SOC		52.08 (2.17± 0.03 V/ cell)	
5	Electrolyte		Immobilized H2So4 with added silica Gel	
6	**Basic Features:**			
	Consistent Float Voltage within ±0.05V			
	Deep Discharge recovery even after 7 Days			
	Improved Deep Cyclic capability			
	Tubular Positive plate & Special additives for Negative Plate			
	Superior performance at extreme temperatures -20°C - +55°C			
	Fast Charging capability within 8-12 hours			
	Safe & Maintenance Free			
	Superior Cyclic life o above 2000 cycles at 80% DOD at 27°C			
	Compact Design			
7	**Performance (At 27°C):**			
	Rate of Discharge	**ECV (V)**	**Discharge Current (A)**	**Backup Time**
	10-Hour Rate	1.75Vpc	50.00	10-Hours
	8-Hour Rate		60.00	8-Hours
	5-Hour Rate		83.00	5-Hours
	3-Hour Rate		120.00	3-Hours
	1-Hour Rate		250.00	1-Hour
8	Ampere Hour Efficiency		>95%	
9	Watt Hour Efficiency		>85%	
10	Type of Positive Plate		Tubular	
11	Method of connection between cells		Bolted	
12	Type of Separator material		Synthetic	
13	Container Material		PPCP	
14	Safety Valve		Self resealable with flame arrestor	
15	Recommended charging method		Constant Potential	
16	Recommended Storage period before freshening charge at 27°C.		12 month from the date of factory last charge	
17	Maximum allowable discharge current		1500 Amps	
18	Maximum allowable charging current		125 Amps	
19	Allowable depth of discharge voltage		1.80Vpc	
20	**Charge Regime**		Batteries shall be charged in constant potential mode with current limit	
	Charging voltage at 27°C	Float Charge	55.92 Volts/cell	
		Boost Charge	57.60 Volts/cell	
	Charging voltage at 35°C	Float Charge	55.20 Volts/cell	
		Boost Charge	56.40 Volts/cell	

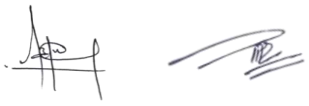
21	Short circuit current	2500 Amps
22	Operating Temperature Range	-20°C to 55°C
23	Float Service Life at 27°C	10 - 15 Years
24	**Cyclic Service Life (@ 27˚C):**	
	At 20% D.O.D	5500 Cycles
	At 50% D.O.D	2800 Cycles
	At 80% D.O.D	2000 Cycles
25	Self discharge	<1% per week
26	Design Life at 27°C	20-Years
27	Performance Certifications required	Confirm to TEC/GRT/TX/BAT-003/02 MARCH-2011, IS 15549:2005, IEC 61427
28	Minimum of SOC required in a day for every disc harge	>90% SOC
29	**Periodic equalizing / boost charge depending on % of DOD and State of Charge (Days):**	
	At 20% D.O.D	60
	At 50% D.O.D	30
	At 80% D.O.D	15
30	Daily charge / discharge parameters and equalizi ngcharge parameters for optimum life of the battery.	To be automated fully
31	Maximum yearly weighted ambient temperature f or battery operation	35°C

TECHNICAL SPECIFICATIONS OF 96V - 800AH GEL VRLA Battery				
S. No.	Description		Details	
1	Rated Capacity at C/10 at 27°C (AH)		800 AH	
2	No of Cells		48	
3	Nominal Voltage (V)		96	
4	OCV at 100% SOC		104.2V (2.17± 0.03 V/ cell)	
5	Electrolyte		Immobilized H2So4 with added silica Gel	
6	**Basic Features:**			
	Consistent Float Voltage within ±0.05V			
	Deep Discharge recovery even after 7 Days			
	Improved Deep Cyclic capability			
	Tubular Positive plate & Special additives for Negative Plate			
	Superior performance at extreme temperatures -20°C - +55°C			
	Fast Charging capability within 8-12 hours			
	Safe & Maintenance Free			
	Superior Cyclic life o above 2000 cycles at 80% DOD at 27°C			
	Compact Design			
7	**Performance (At 27°C):**			
	Rate of Discharge	**ECV (V)**	**Discharge Current (A)**	**Backup Time**
	10-Hour Rate	1.75Vpc	80	10-Hours
	8-Hour Rate		95.2	8-Hours
	5-Hour Rate		133.6	5-Hours
	3-Hour Rate		191.2	3-Hours
	1-Hour Rate		400	1-Hour
8	Ampere Hour Efficiency		>95%	
9	Watt Hour Efficiency		>85%	
10	Type of Positive Plate		Tubular	
11	Method of connection between cells		Bolted	
12	Type of Separator material		Synthetic	
13	Container Material		PPCP	
14	Safety Valve		Self resealable with flame arrestor	
15	Recommended charging method		Constant Potential	
16	Recommended Storage period before freshening charge at 27°C.		12 month from the date of factory last charge	
17	Maximum allowable discharge current		2400 Amps	
18	Maximum allowable charging current		200 Amps	
19	Allowable depth of discharge voltage		1.80Vpc	
20	**Charge Regime**		Batteries shall be charged in constant potential mode with current limit	
	Charging voltage at 27°C	Float Charge	111.84 Volts/cell	
		Boost Charge	115.20 Volts/cell	
	Charging voltage at 35°C	Float Charge	110.40 Volts/cell	

		Boost Charge	112.80 Volts/cell
21	Short circuit current		4000 Amps
22	Operating Temperature Range		-20°C to 55°C
23	Float Service Life at 27°C		10 - 15 Years
24	**Cyclic Service Life (@ 27˚C):**		
	At 20% D.O.D		5500 Cycles
	At 50% D.O.D		2800 Cycles
	At 80% D.O.D		2000 Cycles
25	Self discharge		<1% per week
26	Design Life at 27°C		20-Years
27	Performance Certifications required		Confirm to TEC/GRT/TX/BAT-003/02 MARCH-2011, IS 15549:2005, IEC 61427
28	Minimum of SOC required in a day for every disc harge		>90% SOC
29	**Periodic equalizing / boost charge depending on % of DOD and State of Charge (Days):**		
	At 20% D.O.D		60
	At 50% D.O.D		30
	At 80% D.O.D		15
30	Daily charge / discharge parameters and equaliz ingcharge parameters for optimum life of the battery.		To be automated fully
31	Maximum yearly weighted ambient temperature for battery operation		35°C

TECHNICAL SPECIFICATIONS OF 120V - 1000AH GEL VRLA Battery				
S.No.	Description		Details	
1	Rated Capacity at C/10 at 27°C (AH)		1000 AH	
2	No of Cells		60	
3	Nominal Voltage (V)		120	
4	OCV at 100% SOC		130.20V (2.17± 0.03 V/ cell)	
5	Electrolyte		Immobilized H2So4 with added silica Gel	
6	**Basic Features:**			
	Consistent Float Voltage within ±0.05V			
	Deep discharge recovery even after 7 days			
	Improved Deep Cyclic capability			
	Tubular Positive plate & Special additives for Negative Plate			
	Superior performance at extreme temperatures -20°C - +55°C			
	Fast Charging capability within 8-12 hours			
	Safe & Maintenance Free			
	Superior Cyclic life of 2000 cycles at 80% DOD at 27°C			
	Compact Design			
7	**Performance (At 27°C):**			
	Rate of Discharge	**ECV (V)**	**Discharge Current (A)**	**Backup Time**
	10-Hour Rate	1.75Vpc	100	10-Hours
	8-Hour Rate		119	8-Hours
	5-Hour Rate		167	5-Hours
	3-Hour Rate		239	3-Hours
	1-Hour Rate		500	1-Hour
8	Ampere Hour Efficiency		>95%	
9	Watt Hour Efficiency		>85%	
10	Type of Positive Plate		Tubular	
11	Method of connection between cells		Bolted	
12	Type of Separator material		Synthetic	
13	Container Material		PPCP	
14	Safety Valve		Self resealable with flame arrestor	
15	Recommended charging method		Constant Potential	
16	Recommended Storage period before freshening charge at 27°C.		12 months from the date of factory last charge	
17	Maximum allowable charging current		3000 Amps	
18	Maximum allowable charging current		250 Amps	
19	Allowable depth of discharge voltage		1.80Vpc	
20	Charge Regime		Batteries shall be charged in constant potential mode with current limit	
	Charging voltage at 27°C	Float Charge	139.80 Volts/cell	
		Boost Charge	144.00 Volts/cell	
	Charging voltage at 35°C	Float Charge	138.00 Volts/cell	

		Boost Charge	141.00 Volts/cell
21	Short circuit current		5000 Amps
22	Operating Temperature Range		-20°C to 55°C
23	Float Service Life at 27°C		10 - 15 Years
24	**Cyclic Service Life (@ 27˚C):**		
	At 20% D.O.D		5500 Cycles
	At 50% D.O.D		2800 Cycles
	At 80% D.O.D		2000 Cycles
25	Self discharge		<1% per week
26	Design Life at 27°C		20-Years
27	Performance Certification Required		Confirm to TEC/GRT/TX/BAT-003/02 MARCH-2011, IS 15549:2005, IEC 61427
28	Minimum of SOC required in a day for every disc harge		90%
29	**Periodic equalizing / boost charge depending on % of DOD and State of Charge (Days):**		
	At 20% D.O.D		60
	At 50% D.O.D		30
	At 80% D.O.D		15
30	Daily charge / discharge parameters and equalizing charge parameters for optimum life of the battery.		To be automated fully
31	Maximum yearly weighted ambient temperature for battery operation		35°C



TECHNICAL SPECIFICATIONS OF 240V – 1200 AH GEL VRLA Battery				
S.No.	Description		Details	
1	Rated Capacity at C/10 at 27°C (AH)		1200 AH	
2	No of Cells		240 (2 cells of 600Ah - in parallel)	
3	Nominal Voltage (V)		240	
4	OCV at 100% SOC		260.40V (2.17± 0.03 V/ cell)	
5	Electrolyte		Immobilized H2So4 with added silica Gel	
6	**Basic Features:**			
	Consistent Float Voltage within ±0.05V			
	Deep Discharge recovery even after 7 Days			
	Improved Deep Cyclic capability			
	Tubular Positive plate & Special additives for Negative Plate			
	Superior performance at extreme temperatures -20°C - +55°C			
	Fast Charging capability within 8-12 hours			
	Safe & Maintenance Free			
	Superior Cyclic life of 2000 cycles at 80% DOD at 27°C			
	Compact Design			
7	**Performance (At 27°C):**			
	Rate of Discharge	**ECV (V)**	**Discharge Current (A)**	**Backup Time**
	10-Hour Rate	1.75Vpc	120.0	10-Hours
	8-Hour Rate		142.7	8-Hours
	5-Hour Rate		200.3	5-Hours
	3-Hour Rate		286.7	3-Hours
	1-Hour Rate		600.0	1-Hour
8	Ampere Hour Efficiency		>95%	
9	Watt Hour Efficiency		>85%	
10	Type of Positive Plate		Tubular	
11	Method of connection between cells		Bolted	
12	Type of Separator material		Synthetic	
13	Container Material		PPCP	
14	Safety Valve		Self resealable with flame arrestor	
15	Recommended charging method		Constant Potential	
16	Recommended Storage period before freshening c harge at 27°C		12 months from the date of factory last charge	
17	Maximum allowable discharge current		3600 Amps	
18	Maximum allowable charging current		300 Amps	
19	Allowable depth of discharge voltage		1.80Vpc	
20	**Charge Regime**		Batteries shall be charged in constant potentia l mode with current limit	
	Charging voltage at 27°C	Float Charge	279.60 Volts/cell	
		Boost Charge	288.00 Volts/cell	
	Charging voltage at 35°C	Float Charge	276.00 Volts/cell	

		Boost Charge	282.00 Volts/cell
21	Short circuit current		6000 Amps
22	Operating Temperature Range		-20°C to 55°C
23	Float Service Life at 27°C		10 - 15 Years
24	**Cyclic Service Life (@ 27˚C):**		
	At 20% D.O.D		5500 Cycles
	At 50% D.O.D		2800 Cycles
	At 80% D.O.D		2000 Cycles
25	Self discharge		<1% per week
26	Design Life at 27°C		20-Years
27	Performance certification		Confirm to TEC/GRT/TX/BAT-003/02 MARCH-2011, IS 15549:2005, IEC 61427
28	Minimum of SOC required in a day for every disch arge		> 90% SOC
29	**Periodic equalizing / boost charge depending on % of DOD and State of Charge (Days):**		
	At 20% D.O.D		60
	At 50% D.O.D		30
	At 80% D.O.D		15
30	Daily charge / discharge parameters and equalizin g charge parameters for optimum life of the battery optimum life		To be automated fully
31	Maximum yearly weighted ambient temperature for battery operation		35°C

“ANNEXURE-C”

The following compliance needs to be submitted along with the offer

Battery Bank compliance sheet			Date :
S. No.	Title / Description	Complied YES/ NO	Remarks
1	The battery shall be Hi- Performance Valve-Regulated Tubular Gel Type having container made of Polypropylene Co-polymer		
2.	The tensile strength of the material of the container shall be such that it can handle the internal pressure of the cell in extreme working conditions. The cell shall not show any deformity, cracking or bulge on the side under all working conditions.		
3.	The battery shall be provided with a pressure regulation valve, which shall be self- re-sealable and explosion-proof. The valve unit shall be such that it cannot be opened without a proper tool		
4	The cell covers shall be made of suitable plastic material compatible with the container material and permanently sealed with the container. It shall be capable to withstand internal pressure without bulging or cracking. It shall also be fire retardant.		
5	The batteries shall use 2V, related capacity cells and battery capacity is to be designed at C10 rate with End Cell Voltage of 1.75V / cell.		
6	Charging instructions shall be provided along with the batteries.		
7	Suitable carrying handle shall be provided.		
8	The batteries shall be suitable for recharging by means of solar modules via solar charge regulators and be such that it cannot be opened without a proper tool.		
9	Offered batteries shall comply to the following:		
	Self – Discharge: Less than 1% per week		
	Shelf life without charging: Upto 6 months		
	Recombination Efficiency: > 98%		
	Operating Conditions: -20°C to +55°C		
	Design Life at 27 Deg. C 20 years		
	20 % of DOD: 5500 Cycles		
	50 % of DOD: 2800 Cycles		

	80 % of DOD: 2000 Cycles		
10	The batteries shall be designed for operating in ambient temperature of site in the Ladakh Region		
11	The batteries shall consist of individual cells, which can be carried separately with ease while Transporting.		
12	The batteries shall be designed such it shall be suitable for horizontal or vertical stacking as per Requirement		
13	Battery Racks & Accessories		
	Terminals - Lead terminals with copper inserts with a large surface area to provide maximum Conductivity. Tray - Acid resistant MS trays, self-stackable type. Connectors - Heavy-duty lead plated copper connectors. Battery maintenance kits		
14	Related BIS /CPRI/IEEE certificates and Test reports Test certificate and test report confirm to the IEC 61427 or IS – 15549 or MNRE Approved test or Govt. Approved Test Certificate.		
15	Documentation: Two sets of installation manual / user manual shall be supplied along with each battery bank. The manual shall include complete , Step by step installation instruction, testing maintenance and troubleshooting procedures		

"Annexure-D"

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date:

To,

_____
_____
_____

Sub: Acceptance of Terms & Conditions of TENDER.

TENDER Reference No:_____ dated ___/___/2021

Name of TENDER / Work: -
_____
_____
_____

Dear Sir,

1. I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:
_____
_____

as per your tender/advertisement, uploaded on/given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. __ to ___ (including all documents like annexure(s) etc.), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein. I/We hereby also affirm that the list of site details given as ANNEXURE, where in the names of the proposed sites/distance from HQ/location etc. has been given is properly read through and the BOQ has been filled accordingly.

3. The corrigendum(s) issued from time to time by your department/ organization too has also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept all the tender conditions of above mentioned tender document(s) /corrigendum(s) in its totality / entirety.

5. In case any provisions of this tender are found violated, then your department/ organization shall without prejudice to any other right or remedy be at liberty to reject this tender/bid including the forfeiture of the full said Earnest Money Deposit absolutely or any other punitive action whatsoever as deemed proper to protect the interests of KREDA.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)