

Standard Bidding Document

PMU-211/26-27 Procurement of Battery Bank
(Goods)

National

Single Stage-One Envelope



September 02, 2026

*PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager Procurement
PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad
(Division), Sindh (Province).
Phone: +92-337-219-2717, Email: amprocpmu@hesco.gov.pk*

Table of Contents

REQUEST FOR BIDS	1
Instructions to Bidders	3
Bid Data Sheet	23
Bids Data Sheet (BDS)	24
Eligibility Criteria	28
Evaluation Criteria	29
Items/Lots	30
Related Services of Goods:	31
Items/Lot Specification	32
Price Schedule	33
General Conditions of Contract	35
Special Conditions of Contract	45
Bid Securing Declaration	51
Contract Form	53
Integrity Pact	56
Performance Guarantee Form	58
Annexure	61
Technical Specifications/requirement	62
Price Schedule for Tender	62
Past Experience and Completed Contracts	62
Procurement Forms	63

Past Experience and Completed Contracts	62
Historical Contract Non-Performance, and Pending Litigation and Litigation History	1
Financial Capacity and Net Worth Evaluation Form	1
Average Annual Turnover	1
Additional Forms and Documents	67

REQUEST FOR BIDS

PROCUREMENT OF GOODS

1. The **PMU HESCO (Hyderabad Electric Supply Company (HESCO))** has reserved Funds for the procurement planned for FY **2026-27**. The **PMU HESCO (Hyderabad Electric Supply Company (HESCO))** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the "**PMU-211/26-27 Procurement of Battery Bank**" with the reference of "**P104926**"
2. The **PMU HESCO (Hyderabad Electric Supply Company (HESCO))** invites sealed Bids from eligible Bidders for procurement of goods described in the bidding documents on **EPADS v2.0**.
3. **Single Stage-One Envelope** will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2004 and any Regulations, Regulatory Guides, Procurement Guidelines or Instructions issued by the Authority from time to time.
4. All Bids must be accompanied by a Bid Security amounting described in Bid Security Section in Bidding Document in the form of **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft** or all bids must be accompanied by bid securing declaration in the format specified in the Bidding documents
5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **<https://epads.gov.pk/opportunities/federal/procurements/104926>** for all the interested bidders registered on **EPADS v2.0**. Bidders are required to get themselves registered on **EPADS v2.0** to participate in Bidding process.
6. The e-bids, prepared in accordance with the instructions in the e-Bidding Documents, must be submitted through **EPADS v2.0** on or before **Tuesday, September 22, 2026 11:00 AM**. E-bids will be opened using **EPADS v2.0** on the same day at **Tuesday, September 22, 2026 11:30 AM**. Manual

submission of Bids shall not be entertained. Those vendors who have not yet registered on the new version of **EPADS v2.0**, may register themselves on <https://vendors.epads.gov.pk/>. A tutorial to explain the registration process is available at <https://www.youtube.com/watch?v=MNW6T38v7tc>

In terms of Rule 48 of Public Procurement Rules, 2004 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and on Authority's website at (www.ppra.org.pk).

PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager
Procurement

PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad,
Hyderabad (District), Hyderabad (Division), Sindh (Province).

+92-337-219-2717

amprocpmu@hesco.gov.pk



Instructions to Bidders

A. Introduction

1.Scope of Bids

1.1 The Procuring Agency (PA), as indicated in the **Bids Data Sheet (BDS)** invites Bids **through EPADS v2.0** for the provision of Goods for as specified in the BDS and **in Section V - Evaluation Criteria, Specifications & Schedule of Requirements**. The name, identification, and number of items/deliverables are provided in the **BDS**. The successful Bidders will be expected to provide the goods within the specified period and timeline(s) as stated in the **BDS**.

2. Source of Funds

2.1 Source of funds is referred in Clause-1 of Invitation for Bids.

3. Eligible Bidders

3.1 A Bidder may be natural person, company or firm or public or semi-public agency of Pakistan or any foreign country, or any combination of them with a formal existing agreement (on Judicial Papers) in the form of a joint venture, consortium, or association. In the case of a joint venture, consortium, or association, all members shall be jointly and severally liable for the execution of the Contract in accordance with the terms and conditions of the Contract. The joint venture, consortium, or association shall nominate a Lead Member as nominated in the BDS, who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture, consortium, or association during the Bidding process, and in case of award of contract, during the execution of the contract.

3.2 Verifiable copy of the agreement that forms a joint venture, consortium or association shall be required to be submitted as part of the Bid.

3.3 The appointment of Lead Member in the joint venture, consortium, or association shall be confirmed by submission of a valid Power of Attorney to the Procuring Agency.

3.4 Any bid submitted by the joint venture, consortium or association shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated (or post qualified if required) with respect to its contribution only, and the responsibilities of each party shall not be substantially altered without prior written approval of the Procuring Agency and in line with

any instructions issued by the Authority.

(The limit on the number of members of JV or Consortium or Association may be prescribed in BDS, in accordance with the guidelines issued by the PPRA).

3.5 The invitation for Bids is open to all prospective suppliers, manufacturers, or authorized agents / dealers subject to any provisions of incorporation or licensing by the respective national incorporating agency or statutory body established for that particular trade or business. Procuring agencies shall specify the registration/licensing requirements for the foreign bidders keeping in view the requirement of that business.

3.6 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this Bidding process, if they:

1. are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring Agency to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the Goods to be purchased under this Invitation for Bids.
2. have controlling shareholders in common; or
3. receive or have received any direct or indirect subsidy from any of them; or
4. have the same legal representative for purposes of this Bid; or
5. have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bids of another Bidder, or influence the decisions of the Procuring Agency regarding this Bidding process; or
6. Submit more than one Bid in this Bidding process.

3.7 A Bidder may be ineligible if –

1. he is declared bankrupt or, in the case of company or firm, insolvent;
2. payments in favor of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property;

3. the Bidder is convicted, by a final judgment, of any offence involving professional conduct;

4. the Bidder is blacklisted locally or by international organizations and hence debarred due to involvement in corrupt and fraudulent practices, or performance failure or due to breach of Bid securing declaration.

3.8 As and when required, bidders shall provide to the Procuring Agency evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.

3.9 Bidders shall submit Bids relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract amounting to more than ten (10) percent of the Bid price is envisaged.

4. Eligible Goods and Related Services

4.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such goods and services. For purpose of this Bid, ineligible countries are the countries declared ineligible by the Federal Government.

5. One Bid per Bidder

5.1 A bidder shall submit only one Bid, in the same bidding process, either individually as a Bidder or as a member in a joint venture or any similar arrangement.

5.2 The Bidder shall not engage a subcontractor for any portion of the contract if the value of such subcontracting exceeds thirty percent (30%) of the total contract amount.

6. Cost of Bidding

6.1 Any cost incurred by the bidder relating to the preparation and submission of its Bid shall be borne by the bidder, and the Procuring Agency shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. Bidding Documents

7. Contents of Bidding Document

7.1 The Goods required, Bidding procedures, and terms and conditions of the contract are prescribed in the Bidding Documents. In addition to the Invitation for Bids, the Bidding documents which should be read in conjunction with any addenda issued in accordance with **ITB 9.1** include:

Section I -Invitation to Bids

Section II Instructions to Bidders (ITB)

Section III Bid Data Sheet (BDS)

Section IV Evaluation Criteria, Specifications, Schedule of Requirements

Section V Bid Forms

Section VI General Conditions of Contract (GCC)

Section VII Special Conditions of Contract (SCC)

Section VIII Contract Forms

7.2 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding documents. Failure to furnish all the information required in the Bidding documents through **EPADS v2.0** will be at the Bidder's risk and may result in the rejection of his Bids.

8. Clarification of Bidding documents

8.1 A prospective Bidder requiring any clarification of the Bidding documents may notify the Procuring Agency through **EPADS v2.0**.

8.2 The Procuring Agency will within three (3) working days after receiving the request for clarification, respond to any request for clarification through **EPADS v2.0** provided that such request is received not later than three (03) days prior to the deadline for the submission of Bids as prescribed in **ITB 22**

8.3 Copies of the Procuring Agency's response will be forwarded to all identified Prospective Bidders through **EPADS v2.0**, including a description of the inquiry, but without identifying its source.

8.4 Should the Procuring Agency deem it necessary to amend the Bidding document as a result of a clarification, it shall do so following the procedure under **ITB 9**.

8.5 If indicated **in the BDS**, the Bidder's designated representative is invited at the Bidder's cost to attend a pre-Bid meeting at the place, date and time mentioned **in the BDS**. During this pre-Bid meeting, prospective Bidders may request clarification of the schedule of requirement, the Evaluation Criteria or any other aspects of the Bidding document.

8.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be uploaded on **EPADS v2.0**. Any modification to the Bidding documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to **ITB 9**. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

9. Amendment of Bidding documents

9.1 Before the deadline for submission of Bids, the Procuring Agency for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder or Pre-Bid meeting may modify the Bidding documents by issuing addenda through **EPADS v2.0**.

9.2 The Procuring Agency shall promptly publish the addendum through **EPADS v2.0**.

9.3 Any addendum issued including the notice of any extension of the deadline shall also be communicated through EPADS v2.0 to all the bidders who have already submitted their bids. Such bidders shall have the right to withdraw their already submitted bid and re-submit the revised bid prior to the original or extended bid submission deadline.

9.4 To give prospective Bidders reasonable time in which to take an addendum/corrigendum into account in preparing their Bids, the Procuring Agency may, at its discretion, extend the deadline for the submission of Bids through **EPADS v2.0**:

Provided that the Procuring Agency shall extend the deadline for submission of Bids, if such an addendum is issued within last three (03) days of the Bids submission deadline.

C. Preparation of Bids

10. Language of Bid

10.1 The Bid prepared by the bidder, as well as all correspondence and documents relating to the Bids exchanged by the Bidder and the Procuring Agency shall be written in the English language unless otherwise specified in the BDS. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English language unless otherwise specified in the **BDS**, in which case, for purposes of interpretation of the Bidder, the translation shall govern.

11. Documents and samples Constituting the Bid

11.1 The Bid prepared by the Bidder shall constitute the documents required in the **BDS**.

Details of sample(s) where applicable and requested in the BDS.

1. Documentary evidence established in accordance with ITB that the Bidder is eligible and/or qualified for the subject bidding process;
2. Documentary evidence establish that the Bidder has been authorized by the manufacturer to deliver the goods into Pakistan, where required and where the supplier is not the manufacturer of those goods;
3. Documentary evidence establish that the goods and related services to be supplied by the Bidder are eligible goods and services, and conform to the Bidding Documents;
4. Bid security or Bid Securing Declaration furnished in accordance with **ITB 18**.

12. Documents Establishing Eligibility of the Goods and Conformity to Bidding documents

12.1 To establish the conformity of the bidder to the Bidding document, the Bidder shall furnish as part of its Bids the documentary evidence that Goods provided conform to the technical specifications and standards.

13. Documents Establishing Eligibility and Qualification of the Bidder

13.1 The Bidder shall furnish, as part of its Bid, all those documents establishing the Bidder's eligibility to participate in the Bidding process and/or its qualification to perform the contract if its Bid is accepted.

14. Form of Bids

14.1 The Bidder shall fill the Form of Bid furnished in the Bidding documents. The Bids Form must be completed without any alterations to its format and no substitute shall be accepted.

15. Bids Prices

15.1 The Bids Prices quoted by the Bidder in the Form of Bid and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the Bidding documents.

15.2 All items in the Schedule of Requirement must be listed and priced separately in the Price Schedule(s). If a Price Schedule shows items listed but not priced and neither explicitly denied, their prices shall be construed to be included in the prices of other items.

15.3 Items not listed in the Price Schedule shall be assumed not to be included in the Bid, and provided that the Bid is still substantially responsive in their absence or due to their nominal nature, the corresponding average price of the respective item(s) of the remaining substantially responsive Bidder(s) shall be construed to be the price of those missing item(s).

15.4 The Bid price to be quoted in the Form of Bid in accordance with **ITB 14.1** shall be the total price of the Bid.

15.5 The Bidder shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total Bid price of the Goods it proposes to provide under the contract.

15.6 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price will be treated as non-responsive and shall be rejected.

16. Bids Currencies

16.1 Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS in accordance with Rule 30 (2) of the Public Procurement Rules, 2004.

17. Bids Validity Period

17.1 Bids shall remain valid for the period specified in the **BDS** after the Bid submission deadline prescribed by the Procuring Agency. A Bid valid for a shorter period shall be rejected by the Procuring Agency as non-responsive. The period of Bid validity will be determined from the complementary Bid securing instrument, i.e. the expiry period of Bid Security or Bids Securing Declaration as the case may be.

17.2 The procuring agency shall ordinarily be under an obligation to process and evaluate the bid and to issue letter of award within the stipulated bid validity period.

17.3 Under exceptional circumstances, prior to the expiration of the initial Bid validity period, the Procuring Agency may request the Bidders' consent to an extension of the period of validity of their Bids only once through **EPADS v2.0**, for the period not more than the period of initial bid validity. The Bid Security provided under **ITB 18** shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid security or causing to be executed its Bid Securing Declaration. A Bidder agreeing to the request will not be required nor permitted to modify its Bid, but will be required to extend the validity of its Bid Security or Bid Securing Declaration for the period of the extension.

18. Bid Security or Bid Securing Declaration

18.1 The Bidder shall furnish as part of its Bid, a Bid Security in accordance with Rule 25 of the Public Procurement Rules, 2004.

18.2 The original Bid Security shall be enclosed within the sealed envelope and to be submitted physically before closing time for submission of bids. Whereas, scanned copy of bid security shall be uploaded electronically through EPADS v2.0 before closing hours for submission of bids.

18.3 The Bidder who failed to submit the original Bids security before the submission deadline shall be disqualified straightaway.

18.4 The Bid Security or Bid Securing Declaration is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to **ITB 18.7**.

18.5 The Bid Security shall be denominated in the local currency, and it shall be a Bank Draft in the name of the Procuring Agency and valid for twenty-eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period

for Bids/Bid Validity is extended. In either case, the form must include the complete name of the Bidder.

18.6 The Bid Security shall be payable promptly upon written demand by the Procuring Agency in case any of the conditions listed in **ITB 18** are invoked.

18.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bids Validity prescribed by the Procuring Agency pursuant to **ITB 17**. The Procuring Agency shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, after whichever of the following that occurs earliest:

- a. the expiry of the Bid Security;
- b. the entry into force of a procurement contract and the provision of a Performance Guarantee, for the performance of the contract if such a guarantee, is required by the Bid documents;
- c. the rejection by the Procuring Agency of all Bids;
- d. the withdrawal of the Bids prior to the deadline for the submission of Bids, unless the Bids documents stipulate that no such withdrawal is permitted.

18.8 The successful Bidder's Bids Security will be discharged upon the Bidder signing the contract, or furnishing the Performance Guarantee.

18.9 The Bid Security may be forfeited or the Bid Securing Declaration executed:

- a. if a Bidder:
- b. withdraws its Bid during the period of Bid Validity as specified by the Procuring Agency, and referred by the Bidder on the Form of Bids except as provided for in **ITB 17.2**; or
- c. does not accept the correction of errors; or
- d. in the case of a successful Bidder, if the Bidder fails:
- e. to sign the contract; or
- f. to furnish Performance Guarantee.

19. Withdrawal, Substitution, and Modification of Bid

19.1 Before Bid submission deadline, any Bidder may withdraw, substitute, or modify its Bid after it has been submitted through EPADS v2.0. Bids requested to be withdrawn, shall be returned unopened to the Bidders through **EPADS v2.0**.

20. Format and Signing of Bid

20.1 The Bidder shall prepare and submit Bids with due diligence after carefully reading all the terms and condition **before bid submission deadline** through EPADS v2.0.

D. Submission of Bids

21. Submission of Bids through EPADS v2.0

21.1 The Technical and Financial Bids if required to submitted, shall be submitted on **EPADS v2.0**.

22. Deadline for Submission of Bids

22.1 Bids shall be received by the Procuring Agency through **EPADS v2.0** before bid submission deadline.

22.2 The Procuring Agency may, under exceptional circumstances, extend the deadline for the submission of Bids, after recording reasons in writing and in an equal opportunity manner.

In such case, all rights and obligations of the Procuring Agency and the Bidders that were previously governed by the original deadline shall thereafter be subject to the revised deadline.

E. Opening and Evaluation of Bids

23. Opening of Bids

23.1 The Bid Evaluation Committee of the Procuring Agency shall open all Bids through the EPADS v2.0, on the date and time specified in the Bid Data Sheet (BDS).

23.2 The Bid Evaluation Committee **shall generate minutes through EPADS v2.0 containing brief details of bid opening process.** The record of the Bid opening shall include, as a minimum: the name of the Bidder, the Bid price if applicable, and the presence or absence of a Bid Security or Bid Securing Declaration.

23.3 The procuring agency shall live broadcast the opening of bids on national media or on their website or digital channels, if the volume of procurement exceeds five hundred million rupees in case of goods and services and one thousand million rupees in case of works.

23.4 In case the date of opening of bid has been declared as public holiday or the procuring agency fail to open bid due to any EPADS v2.0 related issues, the submission and opening of bids shall be shifted to the next working day on the same time.

23.5 In case of Single Stage One Envelope Procedure, the Bidders names, the Bid prices, the total amount of each Bid and, the presence or absence of Bid Security, Bid Securing Declaration and such other details as the Procuring Agency may consider appropriate, will be announced by the Bid Evaluation Committee.

24. Clarification of Bids

24.1 To assist in the examination, evaluation and comparison of Bids of the Bidders, the Procuring Agency may, ask any Bidder for a clarification of its Bid including breakdown of prices.

24.2 The request for clarification and the response shall be sought through EPADS v2.0 **before three days prior to the deadline for submission of bids.** No change in the prices or substance of the Bids shall be sought, offered, or permitted.

24.3 The alteration or modification in the BIDS which in any way affect the following parameters will be considered as a change in the substance of a Bids:

1. evaluation & qualification criteria;
2. required scope of work or specifications;
3. all securities requirements;
4. tax requirements;

5. terms and conditions of Bidding documents.

6. change in the ranking of the Bidder

24.4 From the time of Bids opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bids it should do so through **EPADS v2.0**.

25. Preliminary Examination of Bids

25.1 Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:

1. meets the eligibility criteria defined in **ITB 3**;
2. has been prepared as per the format and contents defined by the Procuring Agency in the Bidding documents;
3. is accompanied by the required securities; and
4. is substantially responsive to the requirements of the Bidding documents.

25.2 The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.

25.3 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one that: -

1. affects in any substantial way the scope, quality, or performance of the Goods;
2. limits in any substantial way, inconsistent with the Bidding documents, the Procuring Agency's rights or the Bidders obligations under the Contract; or
3. if rectified, would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

25.3 If a Bids is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be evaluated for complete technical responsiveness.

26. Examination of Terms and Conditions; Technical Evaluation

26.1 The Procuring Agency shall examine the Bids to confirm that all terms and conditions specified in the **GCC** and the **SCC** have been accepted by the Bidder without any material deviation or reservation.

26.2 The Procuring Agency shall evaluate the technical aspects of the Bids submitted, to confirm that all requirements specified in Schedule of Requirements and Technical Specifications of the Bidding documents have been met without material deviation or reservation.

26.3 If after the examination of the terms and conditions and the technical evaluation, the Procuring Agency determines that the Bid is not substantially responsive in accordance with **ITB 25.2**, it shall reject the Bid.

27. Correction of Errors

27.1 Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

1. if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;
2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and
3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.
4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bids, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

27.2 The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bids Securing Declaration may be executed.

28. Conversion to Single Currency

28.1 To facilitate evaluation and comparison, the Procuring Agency will convert all Bids prices expressed in the amounts in various currencies in which the Bids prices are payable. For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency specified in the bidding documents. The rate of exchange shall be the selling rate prevailing on the date of opening of financial bids specified in the bidding documents, in accordance with weighted average customer exchange rates list issued by the State Bank of Pakistan on that day.

29. Evaluation of Bids

29.1 The Bids, quotations, or proposals shall be evaluated by the respective evaluation committees as per evaluation criteria described in the Bidding Documents in accordance with Rule 29 and 30 of the Public Procurement Rules, 2004.

1. Least Cost Based Selection (LCBS)

After meeting the requirements of eligibility, qualification and substantial responsiveness, the bid in compliance with all the mandatory (technical) specifications/requirements and/or requisite quality threshold (if any), and having lowest evaluated cost (or financial proposal) shall be considered Successful Bid.

2. Quality and Cost Based Selection (QCBS)

In such combination, there shall be some specific weightage of both the technical features and financial aspects of the proposal. The financial marks shall be awarded on the basis of inverse proportion calculations. The successful bid shall be declared, on the basis of combined evaluation.

3. Quality Based Selection (QBS)

After meeting the requirements of eligibility, qualification and substantial responsiveness the bid in compliance with all the mandatory (technical) specifications/requirements and attaining highest marks in the Technical Evaluation considering all other qualitative and/or quantitative parameters (or point rated criteria) for technical proposal(s) such as working methodology, implementation plan, resource allocation, additional functionalities, risk management approach, knowledge transfer techniques, post implementation methodology etc. shall be treated as highest ranked bid. Later on, the financial proposal of highest ranked bidder shall be opened, however, in case of failure to proceed further with such a bidder, the procuring agency may resort to second

highest bidder and so on.

29.2 In case of tie of bids, the bidders shall be provided an opportunity to offer their best and final monetary offer through EPADS v2.0. However, in no case the rates shall be higher than the original financial bids.

30. Domestic Preference

30.1 The procuring agency shall evaluate and compare bids, allow for preference to domestic bidders, while competing with the international bidders in accordance with the policies of Federal Government.

The percentage of preference, to be accorded shall be clearly mentioned in the bidding documents under the bid evaluation criteria.

31. Determination of Successful Bid

31.1 Selection technique will be adopted for determining the Successful Bid in accordance with the criteria referred in the BDS or prescribed in the separate section titled as Evaluation Criteria.

31.2 In case where the Procuring Agency adopts the Cost Based Evaluation Technique and, the Bid with the lowest evaluated price from amongst those which are eligible, compliant and substantially responsive shall be the Successful Bid.

31.3 The Procuring Agency may adopt the Quality & Cost Based Selection Technique due to the following two reasons:

1. Where the Procuring Agency knows about the main features, usage and output of the products; however not clear about the complete features, technical specifications and functionalities of the goods to be procured and requires the bidders to submit their proposals defining those features, specifications and functionalities; or
2. Where the Procuring Agency, in addition to the mandatory requirements and mandatory technical specifications, requires parameters specified in Evaluation Criteria to be evaluated while determining the quality of the goods.

31.4 In such cases, the Procuring Agency may allocate certain weightage to these factors as a part of Evaluation Criteria, and may determine the ranking of the bidders on the basis of combined evaluation in accordance with provisions of Rule 2(1)(h) of the Public Procurement Rules, 2004.

32. Abnormally Low Financial Bids

32.1 Where the Bid price is considered to be abnormally low, the Procuring Agency shall perform price analysis either during determination of Successful Bids or as a part of the post-qualification process.

32.2 The Procuring Agency may reject an Abnormally low financial bids.

32.3 In order to identify the Abnormally Low Bids (ALB) following approaches can be considered to minimize the scope of subjectivity:

1. Comparing the Bids price with the cost estimate;
2. Comparing the Bids price with the Bids offered by other Bidders submitting substantially responsive Bids; and
3. Comparing the Bids price with prices paid in similar contracts in the recent past either government- or development partner-funded.

32.4 The Procuring Agency will determine to its satisfaction whether the Bidder that is selected as having submitted the successful bid is qualified to perform the contract satisfactorily.

32.5 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Procuring Agency deems necessary and appropriate. Factors not included in these Bidding documents shall not be used in the evaluation of the Bidders' qualifications.

32.6 Procuring Agency may seek "Certificate for Independent Price Determination" from the Bidder and the results of reference checks may be used in determining an award of contract.

Explanation: The Certificate shall be furnished by the Bidder. The Bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.

32.7 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's Bids, in which event the Procuring Agency will proceed to the next ranked Bidder to make a similar determination of that Bidder's capabilities to

perform satisfactorily.

F. Award of Contract

33. Criteria of Award

33.1 The Procuring Agency will award the Contract to the Bidder whose Bids has been determined to be substantially responsive to the Bidding documents and who has been declared as Most Advantageous Bidder.

34. Negotiations

34.1 The procuring agency shall not engage in negotiations with respect to scope and price with the bidder except when the procuring agency conducts a procurement using direct **or negotiated** contracting or a request for proposals with evaluation based on quality alone.

34.2 The procuring agency may negotiate with the most advantageous bid with a view to streamline the work or task execution, at the time of contract finalization on methodology, work plan, staffing, finalizing payment arrangements, delivery arrangements, minor amendments to the special conditions of the contract.

35. Procuring Agency Right to reject all bids

35.1 The Procuring Agency reserves the right to reject all bids or proposals at any time prior to the issuance of the Letter of Award, without incurring any liability, in accordance with Rule 33 of the Public Procurement Rules, 2004.

36. Procuring Agency's Right to Vary Quantities at the Time of Award

36.1 The Procuring Agency reserves the right at the time of contract award to increase or decrease the **quantity of** Goods originally specified in these Bidding documents provided this does not exceed **by** 15%, without any change in unit price or other terms and conditions of the Bids and Bidding documents.

37. Notification of Award

37.1 Prior to the award of contract, the procuring agency shall announce and publish the result of bid evaluation on **EPADS v2.0** in accordance with Rule 35

of the Public Procurement Rules, 2004.

37.2 The Bidder whose Bids has been accepted will be notified of the award by the Procuring Agency prior to expiration of the Bids/Bid Validity period. The Letter of Award will state the sum that the Procuring Agency will pay the successful Bidder in consideration for the delivery of Goods as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

37.3 The Letter of award will constitute the formation of the Contract, subject to the Bidder furnishing the Performance Guarantee and signing of the contract.

38. Signing of Contract

38.1 Promptly after issuance of Letter of award, Procuring Agency shall send the successful Bidder the draft Contract, incorporating all terms and conditions as agreed by the parties to the contract.

38.2 Immediately after the Redressal of grievance by the GRC (if any), mandatory standstill period in accordance with Rule 35 of the Public Procurement Rules, 2004 and **after fulfillment of all condition's precedent** of the Contract Form, the successful Bidder and the Procuring Agency shall sign the Contract.

39. Corrupt & Fraudulent Practices

39.1 Procuring Agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

F. Grievance Redressal & Complaint Review Mechanism

40. Constitution of Grievance Redressal

40.1 The Grievance Redressal Committee shall address the grievance, if any submitted by any party, including the bidder, in accordance with Rule 48 of the Public Procurement Rules, 2004 to be read with Redressal of Grievances Regulations, 2021.

40.2 In case if any party or the bidder is not satisfied with the decision of the GRC or if it fails to decide within ten days, the bidder or the party may file an appeal before the Appellate Committee of the Authority in accordance with Rule 48 of the Public Procurement Rules, 2004 to be read with Redressal of Grievances Regulations, 2021.

G. Mechanism of Blacklisting

41. Mechanism of Blacklisting

41.1 The Procuring Agency shall initiate blacklisting proceedings against any bidder, supplier, or contractor in accordance with the Mechanism for Blacklisting Regulations, 2024, read with Rule 19 of the Public Procurement Rules, 2004.

41.2 The blacklisted/debarred bidder may file the review petition before the Authority in accordance with Rule 19 of the Public Procurement Rules, 2004 to be read with Procedure of filing and disposal of Review Petitions Regulations, 2021.





Bid Data Sheet

Bids Data Sheet (BDS)

The following specific data for the procurement of Goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

BDS Clause Number

ITB Number

Amendments of, and Supplements to, Clauses in the Instruction to Bidders

A. Introduction

BDS Clause Number 1

ITB Number 1.1

Name of Procuring Agency: **PMU HESCO (Hyderabad Electric Supply Company (HESCO))**

The subject of procurement is: **PMU-211/26-27 Procurement of Battery Bank**

Expected commencement date: **Friday, October 30, 2026**

BDS Clause Number 2

ITB Number 2.1

Financial year for the operations of the Procuring Agency: **2026-27**

Name and identification number of the Contract: **P104926**

BDS Clause Number 3

ITB Clause Number 3.1

JV/Consortium or Association Allowed: **Yes**

Number of JV/Consortium Members: **3**

see section of eligibility criteria.

B. Bidding Documents

BDS Clause Number 4

ITB Number 8.1

The Bidders may seek clarifications through **EPADS v2.0** : Clarification Date:
Thursday, September 10, 2026

C. Preparation of Bids

BDS Clause Number 5

ITB Number 10.1

The Language of all correspondences and documents related to the Bids shall be in: **English**

List of documents required along with the bid:

1. Technical data, drawings Brochures, and deviations if any
2. Previous supply record (along with GRN/ supply Certificates etc

BDS Clause Number 6

ITB Number 11.1

Items/Lots and there related documents:

See section items and Lots

BDS Clause Number 7

ITB Number 12.1

Items / Lots Specifications:

see section of items specifications.

BDS Clause Number 8

ITB Number 15.6

The price shall be **Fixed**.

BDS Clause Number 9

ITB Number 16.1

Currency of the Bids shall be : **PKR**

BDS Clause Number 10

ITB Number 17.1

The Bids/Bid Validity period shall be: **120 Days**

BDS Clause Number 11

ITB Number 18.1

The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in **BDS 6**

The Bid Security shall be in the form of: **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft**

D. Submission of Bids

BDS Clause Number 12

ITB Number 20.1

Bid shall be submitted online on EPADS v2.0 whereas hard copy of the bid security should be submitted to the following;

PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad (Division), Sindh (Province). before bid submission deadline.

Bids that are not submitted on EPADS v2.0 shall be disqualified.

The deadline for Bids submission is: **Tuesday, September 22, 2026 11:00 AM**

E. Opening and Evaluation of Bids

BDS Clause Number 13

ITB Number 23.1

The Bids opening shall take place on **EPADS v2.0**.

Day : **Tuesday**

Date: **Tuesday, September 22, 2026**

Time : **11:30 AM**

BDS Clause Number 14

ITB Number 31.1

Selection technique adopted will be: **Least Cost Based Selection (LCBS)**
see Evaluation Criteria

F. Review of Procurement Decisions

BDS Clause Number 15

ITB Number 41.1

Grievence against this procurement shall be submitted online on EPADS v2.0.

Arbitrator shall be appointed by mutual consent of the both parties.



Eligibility Criteria

Bidder's Type	Required Registration
Sole Proprietorship	NADRA CITIZENSHIP (CNIC/NICOP)
Partnership Firm	FBR (NTN)
Company (Private Limited)	FBR (GSTN)
Company (Public Limited)	

Evaluation Criteria

Eligible bidder(s) with substantially responsive bid(s) offering **Least Cost Based Selection (LCBS)** shall be consider for the award of contract(s).

Least Cost Based Selection (LCBS)



Items/Lots

Items Without Lots :

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization	Warranty
110 Volt Battery Bank	Battery energy storage system	Address: PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad (Division), Sindh (Province). Schedule: 120 Days Quantity: 13/Qty	13/Qty	1500000 PKR	Manufacturer Authorization form	2 Years

Related Services of Goods:

No



Items/Lot Specification

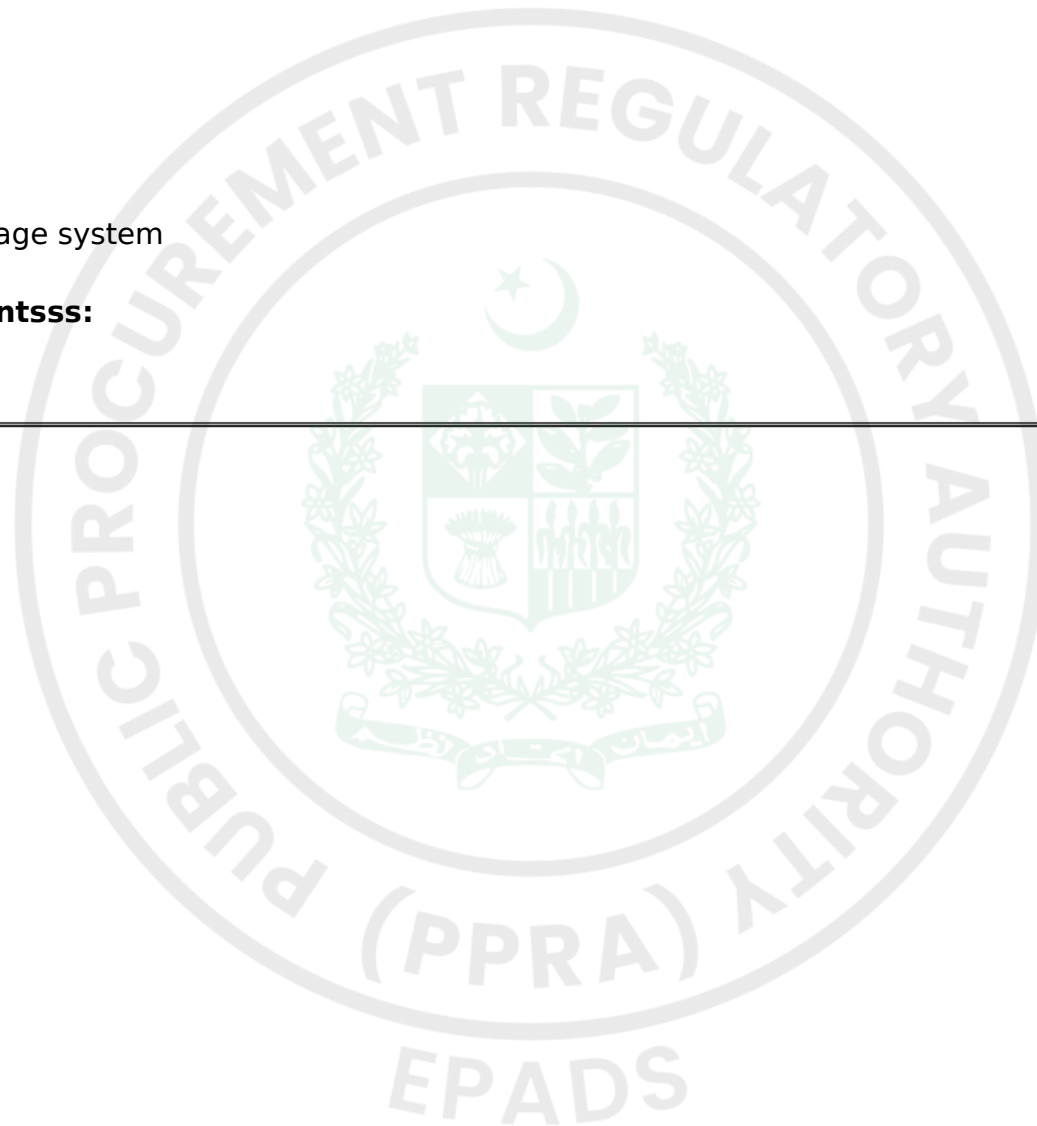
Items Without Lots :

Item: 110 Volt Battery Bank

UNSPSC: Battery energy storage system

Specifications / Requirementss:

SPECIFICATION P-132:88 (UDC 621-355)



Price Schedule

For Individual Items

#	Item Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		





General Conditions of Contract

A. General

1. Definitions

1.1 Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

- a. "Applicable Law" means the laws and any other instruments having the force of law in the Government's Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;
- b. "Procuring Agency" means:-
 - a. any Ministry, Division, Department or any Office of the Government;
 - b. any authority, corporation, body or organization established by or under a Law or which is owned or controlled by the Government;
- c. "The Contract" means an agreement enforceable by law;
- d. "The Contract Price" means the price payable to the Bidder under the Contract for the full and proper performance of its contractual obligations;
- e. "Ancillary Services" means those services ancillary to the provision of Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Bidder covered under the Contract;
- f. "GCC" means the General Conditions of Contract contained in this section;
- g. "SCC" means the Special Conditions of Contract by which the GCC may be amended or supplemented;
- h. "Day" means calendar day unless indicated otherwise.
- i. "Effective Date" means the date on which this Contract comes into force and effect.
- j. "The Bidder" means the individual or corporate body whose Bids to provide the Goods has been accepted by the Procuring Agency;
- k. "The Project Site," where applicable, means the place or places named in Bids Data Sheet and technical Specifications;
- l. "Government" means the Government of Pakistan;
- m. "Subcontractor" means any entity to which the Bidder subcontracts any part of the Goods.
- n. "Service" means any object of procurement other than goods or works;
- o. "Party" means the Procuring Agency or the Bidder, as the case may be, and "Parties" means both of them;
- p. "Foreign Currency" means any currency other than the currency of the country of the Procuring Agency;

q. "Completion Date" means the date of completion of the contract by the Bidder as certified by the Procuring Agency;

r. "In Writing" means communicated in written form with proof of receipt;

s. "Local Currency" means the currency of Pakistan;

2. Application and Interpretation

2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

2.2 In interpreting these Conditions of Contract headings and marginal notes are used for convenience only and shall not affect their interpretations unless specifically stated; references to singular include the plural and vice versa; and masculine include the feminine. Words have their ordinary meaning under the language of the Contract unless specifically defined.

3. Applicable Law

3.1 The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

4. Governing Language

4.1 The Contract as well as all correspondence and documents relating to the Contract exchanged between the Bidder and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the SCC. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5. Notices

5.1 Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the SCC.

6. Delivery/Location

6.1 The Goods shall be delivered to such locations as the Procuring Agency may approve and as specified in SCC.

7. Authorized Representatives / Authority of Member in charge

7.1 Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Bidder may be taken or executed by the officials specified in the SCC.

B. Commencement, Completion, Modification, and Termination of Contract

8. Effectiveness of Contract

8.1 This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the SCC.

9. Commencement of Services

9.1 The Bidder shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

10. Program

10.1 Before commencement of the Services, the Bidder shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

11. Starting Date/Expiration Date

11.1 The Bidder shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the SCC.

11.2 Unless terminated earlier pursuant to Clause **GCC 15** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.

12. Entire Agreement

12.1 This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

13. Modification

13.1 Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any Bids for modification or variation made by the other Party.

13.2 In cases of any modifications or variations, the prior written consent of the Procuring Agency is required.

14. Force Majeure

14.1 Definition

For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

14.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

14.3 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result

of Force Majeure.

14.4 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Bidder shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

15. Termination

15.1 By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Bidder in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

- a. If the Bidder fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;
- b. If the Bidder becomes (or, if the Bidder consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- c. If the Bidder fails to comply with any final decision reached as a result of arbitration proceedings;
- d. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;
- e. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

15.2 By the Bidder

The Bidder may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

- a. If the Procuring Agency fails to pay any money due to the Bidder pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Bidder that such payment is overdue.
- b. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.
- c. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration.
- d. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Bidder's notice specifying such breach.

C. Obligations of the Bidder

16. General

16.1 Standard of Performance

1. The Bidder shall deliver the product and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Bidder shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties.

16.2 Law Applicable to Goods

The Bidder shall deliver the goods in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

17. Conflict of Interests

17.1 Bidder Not to Benefit from Commissions and Discounts.

The remuneration of the Bidder shall constitute the Bidder's sole remuneration in connection with this Contract or the Services, and the Bidder shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Bidder shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

17.2 Bidder and Affiliates Not to be Otherwise Interested in Project

The Bidder agree that, during the term of this Contract and after its termination, the Bidder and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Goods for any project resulting from or closely related to the Services.

17.3 Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

- a. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;
- b. during the term of this Contract, neither the Bidder nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;

18. Confidentiality

18.1 Except with the prior written consent of the Procuring Agency, the Bidder and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the contract.

19. Insurance to be Taken Out by the Bidder

19.1 The Bidder(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, loss or damage, and for the coverage, as shall be specified in the SCC; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

20. Bidder's Actions Requiring Procuring Agency's Prior Approval

20.1 The Bidder shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

- (a) appointing such members of the Personnel not provided by the Bidder;
- (b) changing the Program of activities; and
- (c) any other action that may be specified in the SCC.

21. Reporting Obligations

21.1 The Bidder shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

22. Liquidated Damages

22.1 If the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the performance security (or guarantee) specified in SCC. Once the said maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to **GCC Clause 15**.

22.2 Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Bidder by adjusting the next payment certificate. The Bidder shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in SCC.

22.3 Lack of performance penalty

If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Bidder. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the SCC.

23. Performance Guarantee

23.1 Within Seven (07) days from the issuance of acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape of ----- at the discretion of the PA in the amount **specified in SCC**. In case the amount of Bids security is equal or greater than

23.2 The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

23.3 The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in SCC.

23.4 The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC**.

24. Fraud and Corruption

24.1 The Procuring Agency requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

25. Sustainable Procurement

25.1 The Bidder shall conform to the sustainable procurement contractual provisions, if and as specified in the SCC.

D. Bidder's Personnel

26. Description of Personnel

26.1 The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Bidder's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

27. Removal and/or Replacement of Personnel

27.1 Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Bidder, it becomes necessary to replace any of the Key Personnel, the Bidder shall provide as a replacement a person of equivalent or better qualifications.

27.2 If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Bidder shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

27.3 The Bidder shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

28. Assistance and Exemptions

28.1 The Procuring Agency shall use its best efforts to ensure that the Government shall provide the Bidder such assistance and exemptions as specified in the SCC.

29. Change in the Applicable Law

29.1 If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the related Services rendered by the Bidder, then the remuneration and reimbursable expenses otherwise payable to the Bidder under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

30. Services and Facilities

30.1 The Procuring Agency shall make available to the Bidder and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described , at the times and in the manner specified in the SCC or terms of reference.

30.2 In case that such services, facilities and property shall not be made available to the Bidder, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Bidder for the performance of the Services, (ii) the manner in which the Bidder shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Bidder as a result thereof.

F. Payments to the Bidder

31. Contract Price

31.1 The price payable shall be in Pakistani Rupees unless otherwise specified in the SCC. Prices charged by the Supplier for Goods delivered under the Contract shall not vary from the prices quoted by the Supplier in its Bid.

32. Terms and Conditions of Payment

32.1 Payments will be made to the Bidder according to the payment schedule stated in the SCC and as per actual invoice submitted by the Bidder.

32.2 Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Bidder of a bank guarantee for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Bidder have submitted an invoice to the Procuring Agency specifying the amount due.

33. Currency of Payment

33.1 Any payment under this Contract shall be made in the currency(ies) specified in the SCC.

G. Quality Control

34. Identifying Defects

34.1 The principle and modalities of Inspection of the Goods by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Bidder's performance and notify him of any Defects that are found. Such checking shall not affect the Bidder's responsibilities. The Procuring Agency may instruct the Bidder to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

35. Correction of Defects, and

Lack of Performance Penalty

35.1 The Procuring Agency shall give notice to the Bidder of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

35.2 Every time notice a Defect is given, the Bidder shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

35.3 If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the Bidder will pay this amount, and a Penalty for Lack of Performance.

36. Taxes and Duties

36.1 A Supplier shall be entirely responsible for all taxes, duties, fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.

H. Settlement of Disputes

37. Alternate Dispute Resolution

37.1 The disputes between the parties to the contract may be settled in accordance with Public Procurement Rules, 2004.

37.2 The procuring agency shall refer the matter to the Chief Justice Islamabad High Court or Managing Director PPRA or the Secretary Ministry of Law & Justice for appointment of Arbitrator.

37.3 The fee for the Arbitrator shall be specified in Pak Rupees as determined by the appointing authority which shall be borne and shared equally by the contracting parties.



Special Conditions of Contract

SECTION VIII. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

Number of GC Clause

Amendments of, and Supplements to, Clauses in the General Conditions of Contract

Number of GC Clause 1

Definitions

The Procuring Agency is: PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager Procurement PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad (Division), Sindh (Province).

The Supplier is:

The title of the subject procurement is: PMU-211/26-27 Procurement of Battery Bank

Number of GC Clause 3

Applicable/Governing Law:

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

Number of GC Clause 4

Language:

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English**.

Number of GC Clause 5

Notices:

The addresses for the notices are:

Procuring Agency:

PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager Procurement PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad (Division), Sindh (Province).
+92-337-219-2717
amprocpmu@hesco.gov.pk

Contractor/ Bidder:

[Name, address and telephone number].

The Contractor/ Bidder's Representative(s)

[Name, address, telephone number and e-mail address]

Number of GC Clause 7.1

The Authorized Representatives are:

For the Procuring Agency:

PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager Procurement
PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District),
Hyderabad (Division), Sindh (Province).

+92-337-219-2717

amprocpmu@hesco.gov.pk

For the Bidder:

Name:

Designation:

Address:

Number of GC Clause 8

Effectiveness of the contract

Number of GC Clause 9

Commencement of Contract:

Number of GC Clause 11.2

Expiration of Contract:

Number of GC Clause 15

Termination

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Goods till the time of alternate arrangements.

Number of GC Clause 17

Conflict of Interest:

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing goods or services due to a conflict of a nature described in Clause GCC 17.

Number of GC Clause 22

Liquidated Damages

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.06%** to **10.00%** of the Contract value, in

accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

Number of GC Clause 23

Performance Guarantee:

The amount of performance guarantee shall be **10.00%** of the contract price in acceptable form of **Bank Guarantee**

Number of GC Clause 32

Payment terms:

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

Number of GC Clause 33

Currency of Payment:

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

Number of GC Clause 34

Identifying Defects:

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

Inspections & Tests Requirements

For being Brand New, bearing relevant reference numbers of the equipment (Certificate from supplier)

For the Country of Origin as quoted by the Supplier (Certificate from manufacturer)

For conformance to specifications and performance parameters, through Prior to delivery inspection (Inspection Report by Procurement Committee / Inspection Team)

Two authorized representatives of Director General (Procurement) will carry out pre delivery inspection at manufacturer works at supplier expenses including travelling (return air tickets for places of inspection located out of Hyderabad), local transportation, boarding & lodging in any A class accommodation and daily allowance (including travel time), as per Govt. of Pakistan Policy. The said payment will be made to the inspectors before issuance of Inspection Certificate.

Delivery & Documents

Supplier's invoice in triplicate showing Goods' description, quantity, unit price, and total amount

Delivery Challan duly acknowledged and signed by the consignee.

GRN issued by concerned Deputy Manager, Regional Store HESCO MCPL Workshop Jamshoro.

Warranty Certificate as per warranty clause.

Inspection Certificate as per inspection clause

Confirmation letter of acceptance of performance Bond/Security by the Manager (Procurement) PMU HESCO.

Certificate to the effect that the billed amount has not been claimed or received earlier (Non-payment certificate).

Professional Tax paid certificate by the firm (if applicable).

All Federal & Provincial Taxes will be applied as per prevailing laws.

Copy of General Sales Tax/Excise Duty Invoice.

the manufacturer/supplier in its invoices shall also give an undertaking, in case of omission of any deductible amount; HESCO's claim at any later stage (through pre-audit / post audit) shall be acceptable to them.

As per directions of FBR dated. 3.9.2015 conveyed vide C.E (Operation) PEPCO vide letter No. 1918-28 dated. 17.09.2015, the payment to the registered persons may be linked with the active taxpayer status of the suppliers as per FBR database.

Integrity pact (if applicable) on prescribed Performa duly signed and stamp.

Visual inspection certificate issued by inspector at the time of delivery in store.

Visual inspection certificate confirming the quantity, accessories (if any), packaging etc are consistent with relevant contract Clauses issued by Deputy Manager Regional Store at the time of delivery in store.

Sales Tax return cum payment Challan for the month of delivery of material.

Copy of GRN duly stamped and signed by the respective consignees.

Sales Tax Invoice as per GRN above.

Any increase/decrease in the existing tariff of custom duty/Sales tax or any other tax is imposed or charged by the Government of Pakistan/Provincial Government, the same will be adjusted by the Manager Project Financing PMU on production of documentary evidence.

Number of GC Clause 37

Following is the guidance for Dispute Resolution

- i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard.

ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties.

iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration by sole arbitrator in accordance with Arbitration Act 1940. The arbitrator shall be appointed by mutual consent of the both parties. The Arbitration shall take place in Islamabad, Pakistan and proceedings will be conducted in English language.

iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer's fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute.

v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies due to the Bidder.

Rules of procedure for arbitration proceedings:

Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall prevail in referring the case to the Arbitrator.

Place of Arbitration and Award:

The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad. The award of the arbitrator shall be final and shall be binding on the parties.



Bid Securing Declaration

Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: **P104926**

To: **PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager Procurement PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad (Division), Sindh (Province).**

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid Securing Declaration.

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;
2. Disagreement to arithmetical correction made to the Bid price; or
3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.



Contract Form

SECTION IX: CONTRACT FORMS

THIS AGREEMENT made the ____ day of _____ 20____ between **PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager Procurement PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad (Division), Sindh (Province).**

(hereinafter called “the Procuring Agency”) of the one part and [name of Bidder] of [city and country of Bidder] (hereinafter called “the Bidder”) of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **PMU-211/26-27 Procurement of Battery Bank (P104926)** and has accepted a Bids by the Bidder for the provision of Goods in the sum of [contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency’s Letter of Acceptance; and
8. [add here: any other documents]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the

provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Contract to be executed in accordance with their respective laws the day and year first above written.

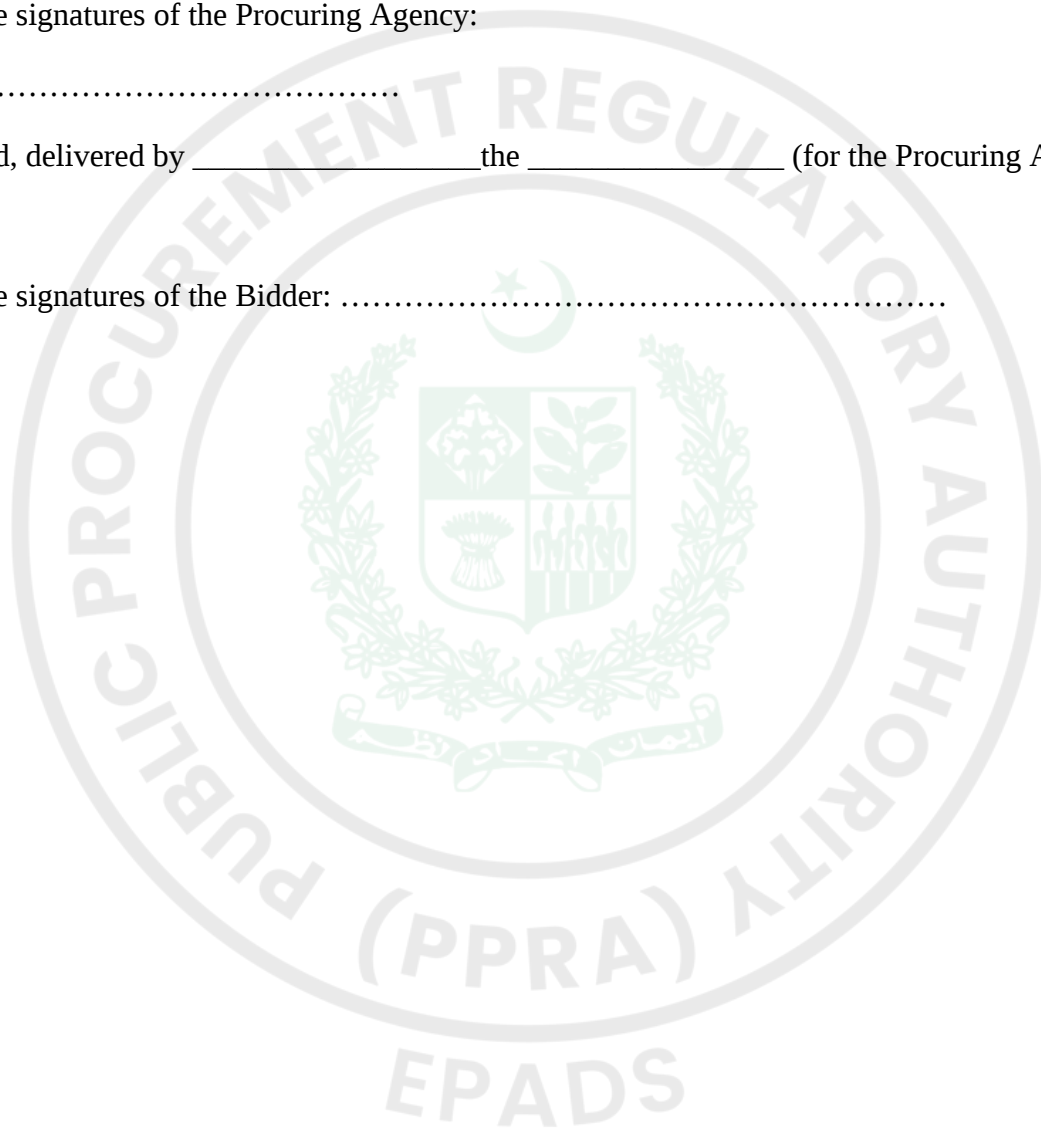
Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

.....

Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Bidder:





Integrity Pact

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract

Number: Contract

Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.



Performance Guarantee Form

Performance Guarantee Form

To: **PMU HESCO (Hyderabad Electric Supply Company (HESCO)), Assistant Manager Procurement PMU Office, Banglow No. A-1, Power Wing Colony, Hussainabad., Hyderabad, Hyderabad (District), Hyderabad (Division), Sindh (Province).**

WHEREAS *[name of Bidder]* (hereinafter called “the Bidder”) has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Goods (hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]





Annexure

Technical Specifications/requirement

Bidder offer the material as per the specification/requirement attached.

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Technical Specifications/requirement** (page number: 68)

Price Schedule for Tender

The **Grand Total Price** must be same as the Bid Quoted Price

Financial Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Price Schedule for Tender** (page number: 92)

Past Experience and Completed Contracts

annexure for Past Experience and Completed Contracts

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Past Experience and Completed Contracts** (page number: 93)



Procurement Forms

Past Experience and Completed Contracts

For the qualification of the bidder regarding the past experience and completed contracts detailed document is attached in the Annexures attached at the end.

See Form Under Additional Forms and Documents: **Past Experience and Completed Contracts** (page number: 94)

Historical Contract Non-Performance, and Pending Litigation and Litigation History

Litigation History

Bidders are requested to submit details of all litigation, arbitration and other claims whether pending, threatened or resolved in the last five years. The above stated information should be completed as per prescribed format and submitted along with required attachments.

The missing or incomplete information / documents may render the bid substantially non-responsive. In this regard, the Purchaser does not have an obligation to request any document / certificates.

See Form Under Additional Forms and Documents: **Historical Contract Non-Performance, and Pending Litigation and Litigation History** (page number: 95)

Financial Capacity and Net Worth Evaluation Form

Financial Criteria

-The bidder should have sound financial health. In order to determine the same, the bidder shall provide its up to date audited financial statements/ other financial statements acceptable to employer i.e. balance sheet, income statement, and cash flow statements for the last 3 years (three years). The bidder's Net worth for each last 3 years should be positive. In this context the bidder is required to fill in the relevant forms of this bidding document and submit the same with the bid.

-A bidder/or all partners combined in case of JV has to have sufficient financing sources, liquid assets, unencumbered real assets, lines of credit, available to meet the total cash flow demands of the contract. The cash flow availability be at least 25% of the estimated amount.

See Form Under Additional Forms and Documents: **Financial Capacity and Net Worth Evaluation Form** (page number: 97)

Average Annual Turnover

The bidder shall have an *average annual turnover in the last 3 years equal to or more than that 1.5 times of the estimated price*. The annual turnover of partners in a JV shall be calculated by summing their individual turnovers. In case of JV, all JV partners shall combine meet the said requirement







Additional Forms and Documents

**SPECIFICATION P-132:88
(UDC 621-355)**

STATION BATTERIES



**PAKISTAN
WATER & POWER DEVELOPMENT AUTHORITY
DESIGN (T&G) DEPARTMENT**

SPECIFICATION P-132:88

STATION BATTERIES

Amendment No.2

Dated 21.07.1995

1. CLAUSE – 1

The existing text is replaced with the following:

“This specification described enclosed type lead-acid batteries of Plante or pasted type for stationary service in floating system. Unless otherwise indicated in the bid enquiry, the bidders may offer the battery of either type. For purpose of bid evaluation the quoted price of pasted type battery, shall be compared with “weighted price” of pasted type battery, which shall be taken as 1.5 times its quoted price”.

2. Clause 5.2.1

The existing text is replaced with the following:-

“The positive plates of the cells shall be either plant type or pasted type. The plante type battery shall conform to B.S.6290 Part-2 (latest version). For pasted type batteries the weight of active material on positive plate shall neither be less than 12 grams/ampere-hour nor shall constitute more than 35% (by weight) of the finished dry plate. The grid weight shall be approximately 52% of the total weight of the plate”.

3. Clause 10.3

Add following sub – clause 10.3.4

“10.3.4 Composition Test

10.3.4.1 The test shall be made on one cell, drawn at random from the offered lot to verify the following:

- a) Weight of lead used in grids of the plates.
- b) Weight of the active material used in the plates.
- c) Weight of outer frame and lugs.

10.3.4.2 In case, the measured weights are less than those indicated in approved date, two more cells shall be subjected to the test and the lot shall be accepted if both the cell pass the test”

4. The following data may be added at the end of schedule of technical data for 220 volts type B and schedule of technical data for 110 volts type A batteries.

- 1- Total weight of finished dry positive plate _____gram
- 2- Weight of +ve plate grid (without active material)
 - i) With lug _____ gram
 - ii) Without lug _____gram
- 3- Weight of active material in the completed +ve plate _____gram
- 4- No. of +ve plates in a cell No. _____
- 5- AH capacity per +ve plate _____AH/+Plate
- 6- Active material per +ve plate _____Gram/AH

SPECIFICATION P-132:88

STATION BATTERIES

Amendment No.1

Dated 22.10.1989

- Clause No. 5.1.2:** First line of the clause is replaced with the following:
 “ The batteries shall be of Plante Type or Reinforced grid type plates assembled in shock”.
- Clause No. 5.2.1:** The existing text is replaced with the following:
 “The positive plates of cells shall consist of pure lead lamellae with plante formation or Reinforced grid type having total weight 65 gm/A.H. capacity. The plates will have more than 65% pure lead. The battery with Reinforced grid shall have grid weight more than 50% of the weight of the finished dry plate and outer frame with lug shall be about 21% of the grid weight”.
- Clause 10.2.5:** The existing text is replaced with the following:
 “The cell shall be fully charged and placed on a constant float voltage of 2.20 volts until the current into the cell has reached a constant minimum value over six consecutive hourly readings. The charging current shall not exceed a value equal to 0.5 mA/A.H. at 25°C for the new batteries and 0.5 mA/A.H. to 0.75 mA/A.H. throughout the battery life time.
- Clause 11.1.7.23(b)** The existing text is replaced with the following:
 “ (b) i) Weight of lead in each plate.
 ii) Weight of grid in each plate.
 iii) Weight of frame with lug in each plate”

C O N T E N T S

0. FOREWORD
1. SCOPE
2. DEFINITIONS
3. SERVICE CONDITIONS
4. RATINGS
5. CONSTRUCTION
6. ELECTROLYTE
7. ACCESSORIES
8. RACKS
9. MARKING
10. TESTS
11. DRAWINGS & DATA
12. PACKING

PRINTING HISTORY:

FIRST APPRVED 14TH FEBRUARY, 1980

FIRST REVISION 24TH OCTOBER, 1988

AMENDMENT NO. 1 DATED 22ND OCTOBER, 1989

AMENDMENT NO. 2 DATED 21ST JULY, 1995

SPECIFICATION P-132:88 (UDC 621.355)

STATION BATTERIES

0. FOREWORD

- 0.1 This specification has been prepared by the Design Department (T&G) of WAPDA.
- 0.2 This Specification is intended for the procurement of material either in loose form or for grid stations works on 'turn-key' basis, and does not include all the necessary provisions of a contract.
- 0.3 This Specification is subject to revision as and when required

1. SCOPE

This Specification describes enclosed type lead-acid batteries for stationary service in floating system.

2. DEFINITIONS

2.1 Battery

A battery is a group of cells interconnected to produce the system nominal voltage.

2.2 System Nominal Voltage

It is the voltage by which the DC power system of a sub station is designated.

2.3 On-Load Voltage

The difference of potential existing between the terminals of cell or battery when it is delivering current.

2.4 Open-Circuit Voltage

The difference of potential existing between the terminal of a cell or battery when the external circuit is open.

2.5 End-Point Voltage

The minimum on-load voltage at which discharge of a cell or battery is considered to be complete.

2.6 Discharge Capacity

It is the ability (expressed in ampere hours) of a cell or battery to deliver to an external circuit a given current for a specified period of time (called the rate of discharge) at a specific temperature of the electrolyte while maintaining the on-load voltage above the end-point voltage.

2.7 Plate Group

An assembly consisting of either positive or negative plates together with group bar.

2.8 Group Bar

A lead alloy bar to which are burned the plate lugs of a plate group.

2.9 Plate Lug

A projection of a plate used for connecting it to the group bar.

2.10 Element

An assembly in which positive and negative plate groups are interleaved such that plates of opposite polarity are electrically separated from each other by micro porous material.

2.11 Terminal Post

A projection of a plate group which protrudes through the cover and is used for connecting a plate group of a cell to that of adjacent cell.

2.12 Intercell Connector

A metal bar or link used to join externally the terminal posts of cells in series or parallel arrangement.

2.13 Terminal Connector

A lug provided on the terminal posts constituting battery's main positive and negative terminals for making connection to external electric circuit.

3. **SERVICE CONDITIONS**

The batteries shall be installed indoor on wooden racks under the following service conditions.

3.1 Ambient Temperature

Maximum	50 deg C
Maximum mean over any 24 hours	45 deg C
Mean in any year	30 deg C
Minimum	-10 deg C

3.2 Relative Humidity

The relative humidity may range from 0 to 100 percent. The maximum values of the ambient temperature and humidity, however do not occur simultaneously. During the monsoons high humidity may persist for many days at a time along with temperature from 30 deg C to 40 deg C.

3.3 Altitude

Installation upto 1000m above sea level.

4. **RATINGS**

4.1 The batteries shall be designated as types A & B by their voltage and ampere-hour ratings which shall be as follows:

		BATTERIES	
		Type (A)	Type (B)
1.	System nominal voltage , (Volts)	110	220
2.	Nominal voltage of cell, Volts	2.0	2.0
3.	Open circuit voltage of cell at full charge, Volts	2.055	2.055
4.	Number of cell in battery	55	110
5.	Rated discharge capacity at 10 hour rate to end-point voltage of 1.85 Volts per cell. Ampere-hours	150	300

- 4.2 The rated discharge capacity is based on the electrolyte temperature of 25°C and specific gravity (25°C) of 1.215+/-0.01 and shall be available after not more than a 4 cycles of charge and discharge. For a battery operating on full floated route, the rated discharge capacity shall be consistently attained within two year.

5. CONSTRUCTION

5.1 General

- 5.1.1 The batteries and racks shall be manufactured in compliance with this specification and approved drawings.
- 5.1.2 The batteries shall be Plante type assembled in shock-proof containers made of clear plastic, and shall be supplied complete with electrolyte, intercell connectors, terminal connectors, wooden racks with inter-tier and inter-row connections and the accessories listed in clause 7.
- 5.1.3 The batteries shall be of compact design. The construction shall ensure minimum self-discharge and low internal resistance. Adequate measures shall be taken for prevention of internal short-circuits and protection of the element against mechanical damage.
- 5.1.4 The material used in the construction of the batteries shall be new and free from all defects which may affect the reliability, impair performance, shorten their life expectancy or render them unserviceable.
- 5.1.5 The positive active material shall be essentially lead dioxide and the negative active material shall be sponge lead. The batteries shall not contain any reclaimed active material.
- 5.1.6 The construction shall be such as to facilitate inspection, testing and maintenance during service. The maintenance shall be limited to infrequent topping up with pure water.
- 5.1.7 The average service life of the batteries shall not be less than fifteen years. There will be no fall-off in the rated discharge capacity during the lifetime. End of service life shall be the time when the battery is no longer able to deliver at least 80 percent of its rated discharge capacity.
- 5.1.8 The batteries shall be of a design for which authenticated tests data can be made available by the manufacturer in sufficiency to show

that batteries of like design have been on test for at least 10 years and that the condition of the test battery at the present time would indicate that the condition of the test battery at the present time would indicate that the battery will reach a useful life of 15 years.

5.2 Positive Plates.

- 5.2.1 The positive plates of the cells shall consist of pure lead lamellae with plant formation.
- 5.2.2. The arrangement of plates in the cells shall ensure that all the surfaces of plates are worked equally so that there is no distortion or buckling of the plates. The plates shall invariably be covered with glass wool mats or uniform thickness to minimize the shedding of active material in normal use.

5.3 Negative Plates

- 5.3.1 The negative plates of the cells shall be of pasted grid type designed to give balanced performance with the positives and have a useful life commensurate with that of the later.
- 5.3.2 The plate grids shall be cast from corrosion resistant lead antimony alloy and be of such design as to securely hold and retain the active material paste in place and in complete electrical contact with the grids and to ensure uniform distribution of the current throughout the mass of active material.
- 5.3.3 The plates shall have rugged construction free from defects such as bends, cracks, surface pits and summary gaps between the active material and the grid mesh.

5.4 Separators.

- 5.4.1 The separators shall be made of micro porous non-corrosive rubber or plastic free from all harmful organic impurities. They shall have good insulation and mechanical strength and be strongly resistant to action of electrolyte and the temperature prevailing in the cell and retain their properties throughout the life of the battery.
- 5.4.2 They shall permit free diffusion of the electrolyte to the active materials of the plates and may be ribbed or corrugated on the side adjacent to the positive plates to add to the free circulation of the electrolyte.

- 5.4.3 The height and width of the separators shall be greater than those of the plates to prevent short circuit due to formation of lead moss across edges of adjacent plates.
- 5.4.4. Adequate provision shall be made below the filling hole of the cells to avoid damage to separators likely to be caused by the insertion of the hydrometer.

5.5. Group Bars

Plate of like polarity in each cell shall be burned integrally to the respective group bar; the group bars shall be of such design, size, and strength as to be adequate electrical conductors and mechanical supports for the respective plate groups.

5.6 Containers

- 5.6.1 The containers shall be molded in strong, impact-resistant, transparent plastic of high insulating strength. The material shall be completely impervious to the corrosive effects of the electrolyte.
- 5.6.2 They shall be large enough to enclose the element while providing ample space above and below the element. The space above the element must be adequate to ensure long intervals between topping-ups.
- 5.6.3 They shall be deeply ribbed in the base to provide a support for the element as well as sediment space sufficient to collect all the active material which will settle therein during the life of the cell so that during this period there will be no contact between the deposited sediment and the plate.

5.7 Covers

- 5.7.1 The covers shall be molded in hard rubber or composition material commercially approved for the application. The material shall be strong enough to prevent cracking or warping during the life of the battery.
- 5.7.2 The joints between the covers and container and all covering openings other than the vents shall be gastight and effectively sealed against leakage of electrolyte. The seals between the terminal posts and the cover shall be made either by pressing against a vulcanized rubber gasket or by burning the terminal posts to lead in the holes. The joint between the cover and the walls of container shall be filled with bituminous or equivalent acid-resistant sealing compound to provide an effective acid-proof seals. The compound shall adhere well to the parts applied, and shall maintain perfect seal without cracking or deformation through a temperature range of 0o to 60oC.

5.8 Vent Plugs

- 5.8.1 Vent plugs shall be either screw or bayonet type or other type suitable for intended application.
- 5.8.2 They shall be of the non-spray type i.e. they shall allow the gases to escape freely but prevent the leakage of the acid fumes. The required baffling may be provided in the cell, vent or plug. They shall be explosion proof to ensure safe operation in service free from danger of ignition of internal gases by external flame or spark.

5.9 Terminal Posts

The terminal posts shall be of corrosion-resistant lead-antimony alloy and have ample cross section for the current duties incident to the intended application.

5.10 Inter-cell Connectors

- 5.10.1 Inter-cell connectors shall be bolted type made of corrosion resistant lead alloy or lead-plated copper and be covered with plastic insulating sheaths. They shall not obstruct the filling vent.
- 5.10.2 They shall be designed to carry current in amperes equal to five times the rated discharge capacity without any significant voltage drop or heating.
- 5.10.3 The bolts, nuts and washers shall be made of lead plated brass or acid-resistant stainless steel.

5.11 Inter-tier Connections

Inter-tier connections and jumpers etc., shall be well protected against corrosion and be of a type, flexibility and current carrying capacity suitable for the service intended.

5.12 Terminal Connectors

Suitable solder less terminal connectors made of lead-plated copper and having approved dimensions of the flat and hole shall be supplied for connection of the battery's main positive and negative terminals to the cable.

6. ELECTROLYTE

- 6.1 Sufficient quantity of the electrolyte shall be supplied for first filling of the batteries. The electrolyte shall be aqueous solution of sulphuric acid, arsenic, and other impurities that will give rise to misindiction of specific gravity, impair the battery performance or shorten its life.
- 6.2 Owing to the tropical climate, the electrolyte of lower specific gravity shall be used and for satisfactory operation, the batteries shall not require electrolyte having full charge specific gravity measured at 25 deg C of more than 1.215 ± 0.01 .
- 6.3 Following temperature correction shall be applied to the specific gravity value at a temperature different from 25 deg C.

$$Sc = So + (t - 25) \times 0.0007$$

Where

Sc is the sp. gravity corrected to the reference temperature of 25 deg C

So is the sp. Gravity observed at a temperature of t deg C

t is the temperature of electrolyte (deg C)

7. ACCESSORIES

- 7.1 The following maintenance accessories and tools shall be supplied with each battery.
1. Portable hydrometer syringe, two (sp. Gravity range 1.000 to 1.280 in steps of 0.005)
 2. Thermometer, -10oC to 50o C, one
 3. D.C. Voltmeter 0-3V, one
 4. Anti-corrosive grease (100 grams)
 5. Plastic jug – 2 liter, two
 6. Funnel – 180mm dia, two
 7. Syringe – 180mm dia two
 8. Accessories Box, one
 9. Wrench, two
 10. Service Manual, one
- 7.2 Besides above, any other tool or accessory which is required for use with or maintenance of the batteries shall also be supplied

8. RACK

- 8.1 Suitable wooden racks shall be supplied with the batteries. They may either be floor stand type or tier-stand type. Step stands may not be used. The manufacturer shall submit the details and drawings of the proposed arrangements for mounting the cells for approval of WAPDA.
- 8.2 The racks shall have adequate rigid construction suitably stiffened by supports and braces etc., to support the weight of the mounted cells without undue vibration bending or loosening of the parts. They shall be simple and easy to assemble at site. Adjustable insulating pads shall be provided for precise leveling of the lugs.
- 8.3 The configuration of the cells on the racks shall be such as to afford free and full access to the service personnel to every individual cell. In any case the cells shall not be arranged in more than two tiers and more than two rows on one rack.
- 8.4 An intercell spacing of about 10mm shall be provided between the cells in a row by means of intercell spacers. The spacing between two rows may not be less than 30mm. The underside of the bottom longitudinal runners shall be not less than 100mm above the floor. Arrangements shall be provided to restrict the movement of the cells on the rack. Side and end rails shall be provided to prevent the cells from falling off the rack.
- 8.5 For batteries of type B, two separate racks may be used with a clear space between them of not less than 0.6 meter.
- 8.6 The racks shall be treated with a protective finish of no less than two coats of acid resistant enamel on all surfaces and finished in gray colour. They shall be additionally treated for protection against fire and vermin. The workmanship shall be first class and the finish shall conform to good commercial practice.

9. MARKING

- 9.1 A nameplate shall be supplied for each battery. The nameplate shall be made of lead or other corrosion-resistant material and be suitable for attaching to the battery rack or hanging on the wall. It shall have at least the following legibly marked on it in English. The markings shall be durable.

1. Name or trade mark of the manufacturer.
 2. Manufacturer's type designation of the cells.
 3. Number of cells.
 4. Rated discharge capacity with reference to discharge rate, temperature, specific gravity and the end-point voltage.
 5. Recommended float voltage.
 6. Recommended boost voltage/maximum finishing charge current.
 7. Month and year of manufacture.
 8. Purchase Order No. and date.
- 9.2 The items 1 & 2 mentioned in clause 9.1 shall be marked also on individual cell nameplates permanently fixed to the covers. Alternatively these may be embossed or indented on the covers or imprinted on the containers.
- 9.3 A set of numeral stickers having an adhesive coating on their back shall be supplied for identifying cells 1 to 55 or 1 to 110 depending upon the type of the battery.
- 9.4 Each cell shall be indelibly marked with two electrolyte level markings (min & max) such that, with cells mounted on rack, the level can be seen by the service personnel.
- 9.5 The polarity of the terminal posts shall be plainly and durably marked on the cover as ' + ' & ' - ' or 'POS' and 'NEG'.

10. TESTS

- 10.1 The batteries supplied under this specification shall be a product regarding which the manufacturer can make available complete records of tests to establish the fact that batteries of like design and rating manufactured by him under exactly similar conditions of manufacture have successfully met all test requirements laid down in this specification and proved satisfactory for the intended duty.

10.2 Type Tests

10.2.1 Following type tests shall be performed on one of the batteries of same type designation as per clause 4.1.

1. Discharge capacity test (clause 10.2.2)
2. Efficiency test (clause 10.2.3)
3. Self-discharge test (clause 10.2.4)
4. Float Current test (clause 10.2.5)
5. Cycle test (clause 10.2.6)
6. Chemical composition test (clause 10.2.7)

10.2.2 Discharge Capacity Test

10.2.2.1 The cells selected for discharge capacity test shall be assembled into a battery as in service and fully charged in accordance with the instructions of the manufacturer. At the end of the charge, the level and specific gravity of the electrolyte of each cell shall be checked and, if necessary adjusted.

10.2.2.2 After standing on open-circuit for one to two hours from the end of the charge (the steady open-circuit voltage of the cells shall not be below 2.0 volts), the battery shall be discharged at 10-hour rate, i.e. a continuous current numerically equal (in amperes) to one-tenth of the rated discharge capacity shall be drawn from the battery, and the discharge shall be terminated when the voltage across the terminals of any one cell has fallen to 1.85 volts. During test the temperature of electrolyte in each cell shall be maintained as close as reasonably practicable to 25 degC and shall be within limits of 10 degC & 40 degC.

10.2.2.3 The voltage across individual cells and the temperature and specific gravity of the electrolyte shall be measured during discharge (at intervals not exceeding 1 hour) and at the completion of discharge. When the voltage at battery terminals has fallen below 1.9 volts per cell, the voltage may be checked at 15 minute intervals.

10.2.2.4 The test discharge as mentioned above shall be taken as first discharge and the discharge capacity in Ampere hours obtained on this discharge and corrected to an equivalent capacity at reference temperature of 25 degC as per clause 10.2.2.7 shall not be less than 90% of the specified discharge capacity.

10.2.2.5 Upon discharge to the end-point voltage of 1.85 volts, the difference in voltages of individual cells shall not exceed plus 0.1 volt.

10.2.2.6 The battery shall be immediately recharged in accordance with manufacturer's instruction and three more discharge tests shall be carried out as described above. The discharge capacity obtained on the last discharge test and corrected to 25 degC shall not be less than the specified discharge capacity.

10.2.2.7 In case when the average temperature of the electrolyte during discharge differs from 25 degC, the actually developed discharge capacity shall be reduced to the discharge capacity at 25 degC by the following formula:

$$C_{25} = \frac{C_t}{1 + 0.008 (t - 25)}$$

where

C_{25} is the discharge capacity reduced to the reference temperature of 25 degC.

C_t is the actually developed discharge capacity.

t is the average temperature (deg C) of the electrolyte during discharge, which shall be determined as the arithmetical mean of the temperature measurements carried out during the discharge.

0.008 is the assumed temperature coefficient of discharge capacity.

10.2.2.8 The hydrometer used for measurements of specific gravity of electrolyte shall be provided with a graduate scale, one division of which shall represent at the most 0.005 unit of specific gravity. The accuracy of the calibration shall not be less than 0.005 unit of specific gravity.

The ammeters and voltmeters used for measurements of current and voltages shall be permanent magnet moving coil type of an accuracy class not below 0.5 and the measuring range such that the readings can be taken in the late third of the scale.

The thermometer used for measurements of temperature of electrolyte shall have graduate scale, one division of which shall represent at the most 1 degC. The accuracy of calibration shall not be less than 0.5 degC.

10.2.2.9 Complete type test report incorporating the necessary details of the above test shall be supplied.

10.2.2.10 The performance of first test discharge (clause 10.2.2.4) is mandatory. However, authenticated test results furnished in evidence that the battery meets the requirements of clause 10.2.2.6 may be accepted in lieu of actually charging and discharging the battery to verify the discharge capacity.

10.2.3 Efficiency Test

The battery which has been given full charge (clause 10.2.2.1) subsequent to a discharge shall be discharged at 10 hour rate to 1.85 volts per cell (clause 10.2.2.1). The battery shall be recharged at 10 hour rate until 111 percent of the capacity realized on previous discharge is returned to the battery. It shall then be discharged at 10 hour rate shall not be less than that obtained on previous discharge, corrections for temperature variations, if any, having been performed as mentioned in clause 10.2.2.7.

10.2.4 Self-discharge Test

The battery shall be fully charged as before and then allowed to stand on open-circuit in an ambient temperature of between 24 degC & 32 degC for a period of 14 days. At the end of this period the specific gravity of each cell shall be measured. Any cell of the battery shall not show a specific gravity drop in excess of 0.015. This assumes an average capacity loss of one percent per day based on rated discharge capacity.

10.2.4.1 Certified test results of the tests done by the manufacturer on batteries of name, type and rating may be accepted (clause 10.1) in lieu of actually performing the tests mentioned in clauses 10.2.3 & 10.2.4.

10.2.5 Float Current Test

The cell shall be fully charged and placed on a constant float voltage of 2.20 volts until the current into the cell has reached a constant minimum value over six consecutive hourly readings. The current shall not exceed a value equal to 0.2 mA/AH at 25 degC for the new batteries and 0.2 mA/AH to 0.3 mA/AH throughout the battery life time.

- 10.2.5.1 Certified test results done by the manufacturer on batteries of the same type and rating may be accepted (clause 10.1) in lieu of actual performing the test only for the batteries which have completed their half life.

10.2.6 Cycle Test

The test shall be made in accordance with I.E.C. Publication 254-1 (1983) sub clause 14. The cycling performance shall be more than 500 cycles.

- 10.2.6.1 Certified test done by the manufacture on batteries of same type and rating may be accepted. If the manufacturer has sufficient data to prove that his battery will have more than 500 cyclic life (clause 10.1) in lieu of actually performing the tests mentioned in clause 10.2.7.

10.2.7 Chemical Composition Test

The test shall be made in Laboratory to check the composition of material used in positive plates, negative plates, separators and to verify the following:

- i) Weight of lead used in grid of each plate.
- ii) Quantity of active material used in each plate.
- iii) Antimony and other materials used for making alloys of the grid
- iv) Impurities in the electrolyte.

- 10.2.7.1 Certified test results done by the manufacturer on batteries of the same type and rating may be accepted in lieu of actual performing the test.

10.3 Sample Tests (Cells)

Following sample tests shall be carried out on 2 sample cells drawn at random from a lot consisting of up to 50 cells of same type and discharge capacity. Should a sample cell be found defective the tests shall be repeated on a double amount of sample cell be found defective the tests shall be repeated on a double amount of samples drawn from the same lot and if any cell of the latter sample gives unsatisfactory results, the lot shall be rejected.

10.3.1 Visual Examination

The material, construction and markings shall be inspected for checking conformance with clause 5&9. The cells showing any deviation which has not been approved, rough spots, absence of any of the component parts, loose or corroded terminal posts, loose or broken seals, un-satisfactory vent plugs, leaking or distorted containers or covers or any other signs of defects or damage inside or outside the cells shall be rejected.

10.3.2 Checking of Dimensions and Weight

The number of cell plates, and the overall dimensions and weight of the cells shall be checked for their agreements with the approved drawings.

10.3.3 Heat Endurance Test

The cells with the electrolyte at the correct level shall be subjected to a temperature of 60°C for 24 hours. After cooling they will be examined and there shall be no evidence of the flow or deformation of the dealing compound, leakage of electrolyte or any other defective development.

10.4 Sample Tests (Racks)

Following sample tests shall be carried out on 4% of the racks offered for acceptance of same type and design, but minimum one. Should a sample rack be found defective the tests shall be repeated on a double amount of samples drawn from the same lot and if any rack of the latter sample turns out to be un-satisfactory the lot shall be rejected.

10.4.1 Checking Dimensions

The dimensions and other details of the racks shall be checked to verify their conformance with the approved drawings.

10.4.2 Visual Examination

The racks shall be inspected visually for checking conformance with clause 8. The cells may be physically mounted on the rack in the approved arrangement scheme in order to ascertain that various requirements of clause 8 are fully met.

11. **DRAWINGS & DATA**

11.1 Bid Data

Following information shall be supplied with the offer. Failure to supply the information shall make the offer liable to rejection:

1. Complete technical description of the offered battery in the form of manufacturer's catalogues and brochures etc. covering material and construction of each part of the cell.
2. Drawings or pictures showing cutaway views of the cell with various parts duly labeled. Material of the parts shall also be indicated on the drawings.
3. Drawings showing necessary dimensions of cells, terminal posts, inter-cell connectors and weight etc.
4. Typical charge and discharge characteristics curves showing cell voltages versus time for various rates of charge and discharge, and corresponding changes in specific gravity. The curves shall also be supplied showing (A) discharge capacity as percentage of the nominal discharge capacity at different discharge rates from 1 second to 10 hours, and (b) state of charge as a percentage of ampere hours previously taken at different charging currents. Effect of temperature variation on the discharge capacity of the cell at various rates shall also be indicated.
5. Details of mounting arrangement alongwith drawings of the rack indicating the dimensions, weights, assembly details, material and finish. Details of treatment for protection against corrosion, vermin and fire etc., shall also be supplied.

6. A list of reference indicating the names of the countries to whom the batteries of the offered type and design have been supplied along with year of supply.

7. The particulars of the battery mentioned below as applicable:

1.	Name of manufacturer	
2.	Type of cell	
3.	Number of cells	
4.	Discharge capacity at 25 degC and;	
i)	10 hour rate to end-point voltage of	VPC AH
ii)	5 hour rate to end-point voltage of	VPC AH
iii)	3 hour rate to end-point voltage of	VPC AH
iv)	1 hour rate to end-point voltage of	VPC AH
v)	30 minute rate to end-point voltage of	VPC AH
vi)	1 minute rate to end-point voltage of	VPC AH
vii)	1 second rate to end-point voltage of	VPC AH
5.	Specific gravity of the electrolyte (25 degC)	
i)	At filling in the cells	
ii)	Before commencement of discharge	
iii)	at the end of discharge	
6.	Recommended starting rate of charge	Amps
7.	Recommended finishing rate of charge	Amps
8.	Recommended float charging voltage	VPC
8(a)	Float current of the fully charged battery with float voltage/cell as per (8) above	mA/AH
8(b)	Float current of the fully charged battery completed 5 years service with float voltage/cell as per (8) above	mA/AH
9.	Recommended boost charging voltage at finishing rate	VPC
10.	Ampere-hour efficiency based on 10 hour rate of discharge at 25 degC	%
11.	Total internal resistance of the battery at the terminal connectors, i.e. including the resistance of inter-cell connectors, inter-tier and inter-row connections, in fully charged condition	Milli ohm
11(a)	Cycle stability	cycles
12.	Type of cell construction, enclosed or open	
13.	Number of positive plates and overall dimensions(without plate lug)	
14.	Type of construction of positive plate	
15.	Number of negative plates and overall dimensions (without plate lug).	
16.	Type of construction of negative plate	

17.	Material of container with thickness of wall and base and whether transparent or not	
18.	Material of cover	
19.	Material of plate grids	
20.	Material of separators, and their height, width and thickness	
21.	Material of inter-cell connectors	
22.	Quantity of electrolyte per cell (sp.gravity 1.2.15 $\pm$.01)	Litres
23.	Weight of assembled cell:	
	i) With electrolyte (sp. Gravity 1.215 $\pm$.01)	kg
	ii) Without electrolyte	kg
23(a)	Total weight of:	
	i) Positive plate	
	ii) Negative plate	
	b) Weight of lead in each plate	
	c) Weight of active material in each plate	
	d) Impurities in the Electrolyte	
24.	Total dimensions of assembled cell:	
	i) Height including terminal posts	mm
	ii) Width	mm
	iii) Depth	mm
	iv) Drawing No.	
25.	Number of racks	
26.	Material of rack	
27.	Arrangement of cells on rack	Tiers X rows
28.	Colour of rack	
29.	Overall dimensions of rack:	
	i) Height	mm
	ii) Length	mm
	iii) Depth	mm
	iv) Drawing No.	
30.	Details of accessories	Please attach list
31.	Details of spare parts recommended to be order with the battery	Please attach list indicating item wise prices
32.	Whether delivered uncharged or dry-charged	
33.	Guaranteed life expectancy	Years

11.2 Approval Data

Following drawings and data shall be supplied for approval before manufacture/delivery of the batteries and racks.

1. The information required vide paras 2,3,5 & 7 of clause 11.1

2. Drawings of nameplate indicating also the material of the plate and details of marking.
3. Dimensions drawing of the terminal connectors.
4. Complete delivery list per battery.
5. Service manual containing instructions for installation, initial charging and maintenance during service.

12. PACKING

- 12.1 The cells shall be delivered in complete battery sets. Each battery consignment shall be shipped with all the accessories required for complete assembling of the battery.
- 12.2 The individual cells and the accessories shall be packed in suitable packing boxes in accordance with manufacturer's standard packing for ocean shipment. The electrolyte shall be packed separately but shipped along with the consignment of the battery.
- 12.3 Each packing box shall bear name or trade mark of the manufacturer and type of packed goods and contain a complete packing list indicating the names and quantities of the packed items.

PRICE SCHEDULE TENDER NO. PMU-211/26-27

Tender No.	Item No.	Description of Stores	Qty Req: (No)	FCS/DDP unit rate in PKR without GST	Applicable GST	FCS/DDP unit rate in PKR with GST	Total Amount in PKR
		1	2	3	4	5	6=2*5
PMU-211/26-27	1	110 Volt Battery Bank	13				
						*Grand Total	

(IN WORDS: _____

Note: The ***Grand Total Price** must be same as the Bid Quoted Price

Stamp & Sign: _____ Date: _____

Past Experience and Completed Contracts

Contractual Experience

Bidder/Manufacturer shall have successfully completed at least two (02) number of contracts of same nature/type. "Same nature/type" means material/equipment having comparable characteristics/features same rating or higher rating not lower rating within last 07 years. In this context, complete set of copies of the contract agreements/Purchase Orders along-with copy of GRN/ completion certificate (must be issued by the end user client) for the equipment indicated in the supply record pertaining to the specified and comparable equipment during the bid evaluation.

The bidders/JV, who are not manufacturers themselves, shall furnish a valid and fresh authorization from the concerned manufacturer to submit a bid from supply of their goods to Pakistan against the tender.

Manufacturing Experience

The manufacturer shall demonstrate designing and manufacturing experience of similar or higher rated equipment /material for at least five year and Two-year satisfactory operation performance of offered equipment.

Performance Criteria

The material manufactured/supplied by the manufacturer/ bidder must have satisfactory operational experience. The bidder / manufacturer shall submit at least two (2) operational certificate with the bid from the end user from Pakistan or from outside the country of offered equipment /goods to establish satisfactory operation for a continuous period of at least two years prior to deadline for submission of bids within the period of last 10 years.

Supply Capacity

The manufacturer shall provide the following information with the Bid to establish its capacity/capability to execute the order.

- Manufacturing Capacity
- Orders in hand

Past Experience / Contracts

Contracts over <i>[insert amount]</i> during the last three years:				
Procuring Agency	Value	Year	Goods/Services Supplied	Country of Destination



Historical Contract Non-Performance, and Pending Litigation and Litigation History

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member Name: *[insert full name]*

IFP No. and title: *[insert IFP number and title]*

Page *[insert page number]* of *[insert total number]* pages

☐ Not debarred due to deviation from commitment of Bid Securing Declaration- ☐ Not debarred due to non-performance			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and PKR equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Procuring Agency: <i>[insert full name]</i> Address of Procuring Agency: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
☐ Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.3 as indicated below.			
Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), US\$ PKR Equivalent (exchange rate)

<i>[insert year]</i>	<i>[insert amount]</i>	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Agency: <i>[insert full name]</i> Address of Procuring Agency: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Procuring Agency" or "Supplier"]</i> Status of dispute: <i>[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i>	<i>[insert amount]</i>
☐ No consistent history of court/arbitral award decisions in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.4. ☐ Consistent history of court/arbitral award decisions in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.4 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), PKR Equivalent (exchange rate)
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Agency: <i>[insert full name]</i> Address of Procuring Agency: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Procuring Agency" or "Supplier"]</i> Court/ arbitral award decision: <i>[Indicate if the award decision was against the Applicant or any member of a joint venture.]y]</i>	<i>[insert amount]</i>

Financial Situation and Performance

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: [insert full name]

Date: [insert day, month, year]

Joint Venture Member Name: [insert full name]

IFP No. and title: [insert IFP number and title]

Page [insert page number] of [insert total number] pages

1. Financial data

Type of Financial information in (currency)	Historic information for previous [insert number] years, [insert in words] (amount in currency, currency, exchange rate*, PKR equivalent)				
	Year 1	Year 2	Year 3		
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

* Refer ITA 14 for the exchange rate

3. Financial documents

The Applicant and in case of JV, members of JV shall provide copies of financial statements for *[number]* years pursuant Section III, Qualifications Criteria and Requirements. The financial statements shall:

- (a) reflect the financial situation of the Applicant or in case of JV member, and not an affiliated entity (such as parent company or group member).
 - (b) be independently audited or certified in accordance with local legislation.
 - (c) be complete, including all notes to the financial statements.
 - (d) correspond to accounting periods already completed and audited.
- ☐ Attached are copies of financial statements¹ for the *[number]* years required above; and complying with the requirements.

¹ If the most recent set of financial statements is for a period earlier than 12 months from the date of Application, the reason for this should be justified.

Average Annual Turnover (Annual Sales Value)

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member Name: *[insert full name]*

IFP No. and title: *[insert IFP number and title]*

Page *[insert page number]* of *[insert total number]* pages

Annual Turnover Data			
Year	Amount Currency	Exchange rate* (If applicable)	PKR equivalent
<i>[indicate calendar year]</i>	<i>[insert amount and indicate currency]</i>		
		Average Annual Turnover **	

* Refer ITA for date and source of exchange rate.

** Total PKR equivalent for all years divided by the total number of years. See Section III, Qualification Criteria and Requirements, ITA.