



सत्यम् शिवम् सुन्दरम्

प्रसार भारती

भारत का लोक सेवा प्रसारक

कार्यालय: अपर महानिदेशक (अभि.) (उ.क्षे.)

आकाशवाणी एवम दूरदर्शन, 2<sup>nd</sup> व 8<sup>th</sup> तल

सूचना भवन, सी.जी.ओ कॉम्प्लेक्स, लोधी रोड नई दिल्ली -110003

**File No.2/4/DDM/ProcurementofbatteriesforDDKChandigarh/2023-24 Dated: 13.03.2024**

**Subject: Budgetary quote for Supply, Installation, Testing & Commissioning (SITC) of 480 Nos. of 2V, 100AH batteries including dismantling of old battery bank at DDK Chandigarh.**

1. The budgetary quote with drawing of the upcoming tender is enclosed herewith to offer comments, if any by prospective bidders/firms.
2. Bidders/firms are requested to provide information about content in respect of Works and Supply along with budgetary quote.
3. Bidders/firms may please submit the above detail on or before due date by e-mail to [pushpenderkaur@prasarbharati.gov.in](mailto:pushpenderkaur@prasarbharati.gov.in) or at following Address.

Pushpinder Kaur Hira  
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Room No. 216,  
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2<sup>nd</sup> floor, CGO Complex,  
Soochna Bhawan, New Delhi-110003

**Budgetary Quotation for:** Supply, Installation, Testing & Commissioning (SITC) of 480 Nos. of 2V, 100AH batteries including dismantling of old battery bank at DDK Chandigarh.

**Due Date to offer Comments: 19.03.2024**

This is issued with the approval of competent authority.

**Encl:**

1. Budgetary Quotation form of the upcoming tender is enclosed herewith to offer comments, if any by prospective bidders/firms.
2. Technical Specification & Drawing for Supply, Installation, Testing & Commissioning (SITC) of 480 Nos. of 2V, 100AH batteries including dismantling of old battery bank at DDK Chandigarh.

(Pushpinder Kaur Hira)  
Assistant Engineer  
For Additional Director General (E) (NZ)



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File No. 2/4/DDM/Procurement of batteries for DDK Chandigarh /2023-24

Dated: 13.03.2024



सत्यम् शिवम् सुन्दरम्

**Budgetary Quotation Form**

**Subject: Supply, Installation, Testing & Commissioning (SITC) of 480 Nos. of 2V, 100AH batteries including dismantling of old battery bank at DDK Chandigarh.**

Please read carefully the terms and conditions given in the enquiry quotation form. Last date of receipt of budgetary quote in this office is **19.03.2024**. Bill of material & also work details are as under -

S. No.	Description	Qty.	Rate	Amount	GST%	GST Amount	Total Amount
A).	Supply of 2V, 100AH batteries	480 Nos.					
<b>Total of Supply (A)</b>							
B).	<b>Works</b>						
1.	Dismantling of old Battery Bank	01 Job.					
2.	Installation, Testing and Commissioning of new Battery Bank						
<b>Total of Works (B)</b>							
C).	<b>Accessories</b>						
1.	Battery Bank Stand	01 Lot					
2.	Cables & Connectors, Nuts & bolts for installation of Battery Bank etc.						
<b>Total of Accessories (C)</b>							
<b>Grand Total (A+B+C)</b>							

**Note:**

- Time of execution as per permission of Engineer In-charge at DDK Chandigarh.
- The bidder must be experienced in same kind of work & shall submit documentary evidence with offer. The Completion certificate is to be attached, issued by any Govt Agency only.
- Work has to be completed without break in service at DDK Chandigarh.
- Before submitting the offer, tenderer must visit the site and with prior permission of the site in-charge. Technical details will be provided by In-charge of Site/I.O.
- The firm has to produce a list all such workers along with the address proof which are to be employed on signing the contract. The bidder shall issue the identity cards to all such persons to facilitate the entry in DDK Chandigarh.
- Inspection will be carried out preferably in presence of Authorized representative of DDK Chandigarh.
- Any damage or misplace in equipment will have to be provided by the firm during the work.

1. Quantity of Material & Scope of work may increase or decrease as per actual requirement/constraints at the site.

2. Please read carefully the terms and conditions given in this Quotation Form.

It is required to list the prices/rates separately for the following

a) GST No: ..... b) PAN No.....

3. **Delivery at:** DDK Chandigarh.

4. **Consignee:** DDK Chandigarh.

5. **Completion Period:** Supply of material & completion of work within 45 days from the date of order.

6. **Validity:** 180days

7. **Guarantee/Warranty:**

- a. The Battery Bank shall be warranted for a minimum period of three years. For this purpose, the warranty period shall be counted from the date of completion certificate given by DDK Chandigarh.
- b. Various defects arising/reported within the warranty period shall be rectified by repairs/replacement at the site by the tenderer free of charge.
8. **Schedule of Payments:**  
100% Payment will be made after satisfactory completion of SITC work.  
*(Note: GST shall be paid only once against an order. Supplier will submit invoice accordingly.)*
9. **Performance Security:**
  - a. The firm/supplier/contractor should submit performance security deposit in the form of FDR from a schedule commercial bank valid for 38 months in favor of Chief Engineer (NZ), AIR & DD, New Delhi.
  - b. The performance security deposit shall be 05% of cost of the order/contract value.
  - c. The performance security deposit would be refundable/released if no deficiency or defect in the material is reported by the consignee during the guarantee/Warranty period.
10. **Declaration:** We declare that all the conditions as given in the Quotation form have been read by us.

**Name (in capital) \_\_\_\_\_**  
**Seal: (Signature of the Tenderer)**

The battery bank shall comprise of 2V 100 AH rating (C 10 Discharge rate) valve regulated Acid Battery (VRLA) SMF (Sealed Maintenance free) , cells for stationery application, complying with following technical specifications with SITC (supply, installation ,testing & commissioning of SMF 2V, 100 AH Battery).


General requirement & standard compliance: All the material used for battery set shall be free from flaws & conform to good engineering practices, except where modified by this specification. The offered set shall comply with latest version of standard specified below & prevailing in battery design industry.

- |      |          |  |
|------|----------|--|
| I.   | IS 15549 | : Stationery value regulated Lead acid battery (SMF) |
| II.  | IEC      | : 60896- 21 & 22                                     |
| III. | T & C    | : GR/BAT -01/03 March 2004 with latest amendment     |
| IV.  | JIS      | : C 8 704 – 2:1999                                   |
| V.   | ISO      | : 9001:2008, ISO 14001: 2008 UL Approved             |

Technical specification of battery & accessories is as under:

Sr.No.	Description	Parameter/Value
1.	Battery type	Sealed Maintenance Free (SMF)
2.	Capacity at 27 degree	2V, 100 AH (C 10 i.e.10 Hrs discharge rate)
3.	Nominal System Voltage	480 Volt DC per bank
4.	Suitable for application	To give backup for smooth uninterrupted operation of high end broadcasting equipments.
5.	Number of batteries per bank	240 Nos.
6.	Total number of batteries	480 Nos.
7.	End Cell Voltage	1.75 VA 27 degree C
8.	Battery Dimensions	(300x196x44 )mm Existing
9.	Weight	6 kg to 9 kg
10.	Current	10 to 20 Amps
11.	Container	Made up of polypropylene copolymer & crylonitrile butadane or any other acid resistance material & shall have fire retardant.
12.	Cells lids	Made of same material as that container and or other suitable for permanent sealing type based on cell sealing design. The tensile

  
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 Assistant Director (Engg.), DDK, Chandigarh

		strength of the container lids material shall be such that it should be capable to handle the internal cell pressure of the cells in the worst working condition without bulging and cracking. The cover may permanently fixed with container by hermetic heat sealing technology or any other advance techniques prevailing in the industry.
13.	Plates	Pasted construction and of good workmanship plates should be free from cracks, white patches & other imperfections. Overall design ensures long life, low maintenance & trouble free operations of battery as well as float applications.
14.	Separators	The separators shall be absorptive mat type or spun glass micro porons material type & shall be resistant to sulphuric acid. It shall be capable of keeping electrolyte and shall be electronically insulated. Sufficient separator overlap & PVC shield protection to top & bottom edges of plate is provided to prevent short circuit formation between the edges of adjacent plates.
15.	Connectors	Heavy duty strips lead or coated copper, connector or flexible cable connector (inter row and interior, associated nut, bolt washes etc.) lead coating should not be less than 25 microns. All inter cell connectors shall be protected with heat shrinkable silicon sleeves for reducing the environment impact including corrosive environment.
16.	Material of nut bolts & fasteners	Copper/ Brass/ Stainless Steel, Copper & Brass effectively lead coated. Stainless Steel shall be passivated to prevent corrosion with acid.
17.	Pressure Regulation Value	Each cell shall be provided with self re-sealable pressure regulation value. The vent plug shall be made with suitable grade of fire retardant plastic material. The valve limit should be such that it cannot open without Wrench.
18.	Flame Arrestor	Each opening shall be covered with flame barrier capable in preventing the ingress of flame into the cell interior when valve opens & Hydrogen/ Oxygen gas mixture is released.

  
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19.	Marking	As per IS 15549 / IEC 60896 part 21-22
20.	Electrolyte	Sulphuric acid & water used for preparation of electrolyte shall confirm to IS-266 & IS-1069
21.	Positive Plate	Positive Plate alloy should be hybrid with deep discharge & long life characteristic. Positive plate should be SRS grid pasted flat type.
22.	Negative Plate	SRS grid flat pasted type. Lead Calcium alloy with maintenance free characteristic.
23.	Terminal Posts	Built in Lead plated Copper and Brass inserts terminals shall be clearly identifiable with permanent markings. Suitably sealed to leakage.
24.	Color	Coded Terminal polarity for easy terminal identification.
25.	Mounting Rack	1) All batteries shall be mounted in a suitable metallic stand/ frame and should be installed in horizontal orientation for easy removal/maintenance of individual battery without disturbance of other batteries. Specifically, each battery should be separately/individually removable for maintenance/replacement without disturbing/removing other batteries. Also the installed batteries terminals should be available on one side of the rack only. The frame shall be powdered coated with acid resistant paint (2 coats) and should have protection against fungus growth and other harmful effects due to tropical environment. The suitable insulation shall be provided between stand/frame. The joining of frame should not leave crevices and ensure proper & light fit. Front battery connection (terminal points) in rack should be covered with plastic cover. Besides the terminal points, all the racks should be fully covered with plastic cover to avoid any accidental shock. This plastic cover should be

  
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		easily removal for easy maintenance of batteries. 2) All the material needed for completion of installation i.e. connecting cables (rack to rack), thimble, fasteners etc. are to be provided by the company.
26.	Self discharge rate of Battery	Self discharge rate shall be less than 0.5% to 1% C10 capacity per week at 27 degree Celsius.
27.	Charger Setting	Voltage- Float : 2.23-2.25 Voltage per cell (VPC) Boost: 2.30-2.30 Voltage per cell(VPC)
28.	Operating Temperature	20 degree C to 60 degree C
29.	Warranty	Minimum 3 years
30.	Life	The bidder shall quote in his offer the guaranteed life of battery when operating under the conditions specified. The bidder will also quote the change in life when of battery due to change in temperature from 27 degree C in the event the batteries are required to operate under higher temperature environment.
31.	Installation of Battery Rack	The battery racks are to be installed in the UPS Room in limited space due to scarcity of space. The detailed dimension of one rack in which 60 batteries should be installed is as below: Length - 27 inch (max.) Width/ Depth -14 inch(approx.) Height - 60 inch (max.) The requirement of the total racks of aforesaid dimension is 8 racks in which total 480 batteries should be installed.

## Electrical Characteristics:

- Design should ensure that battery shall be suitable for constant current constant charging.
- Nominal float voltage shall not exceed 2.23 VPC or 27 degree C.
- Recharging shall be done at normal float voltage.

  
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4. Charging Current shall not exceed 0.15 C, where C is AH @ 10 hrs. of discharge to end cell voltage 1.75 or 27 degree C.
5. Except during commissioning, battery shall not demand boost charging at any point of time during operation.
6. Battery shall not demand equalising charge at any point of time during its operation.

Tests : The bidder shall submit the test reports along with his offer for the following type tests conducted on offered.

Ventilation : The bidder shall indicate in his bid the requirements of ventilation of battery area.

Test : The vendor will submit the following tests conducted as per relevant National Standards.


01. Verification of constructional requirement
02. Verification of dimensions/ Weight.
03. Tests for capacity.
04. Tests for charge retention.
05. Endurance Test.
06. Ampere hour & Watt hour efficiency test.
07. Test for voltage during discharge.
08. Test for endurance under short circuit condition.
09. Test for gas recombination efficiency.
10. Wicking test separators.
11. Service life test as per ANSI-TI 330 Specifications.


At present following are the details used for battery housing racks as under:

There are 4 racks used for housing of battery of one bank (240 batteries) which is installed in series. (Each rack house 5 stacks and each stack has 12 batteries)

The specifications of one stack as given below:

01. Length : 27.5"/698.5mm
02. Breadth : 12"/304.8mm
03. Height : 49"/1250mm

  
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The one stack is further divided in 5 sub parts house the 12 Nos. of batteries. Size given below:


01. Length : 27.5"/698.5mm  
02. Breadth : 12"/300mm  
03. Height : 9.5"/241.3mm


In size deviation of battery may be procured with housing assembly/ battery stack. Either the given size of battery to be procured so as to fit into the housing racks/ stacking rack or if size varies then corresponding rack to be provided along with the batteries.

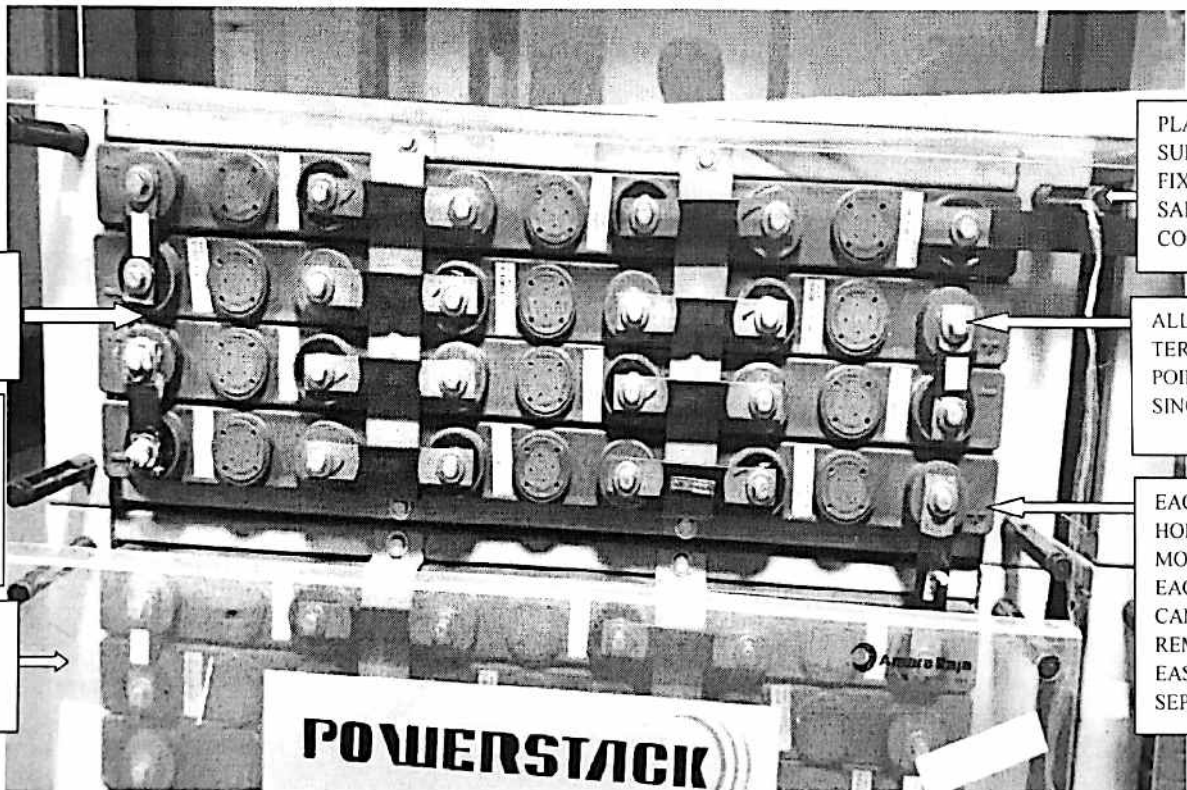
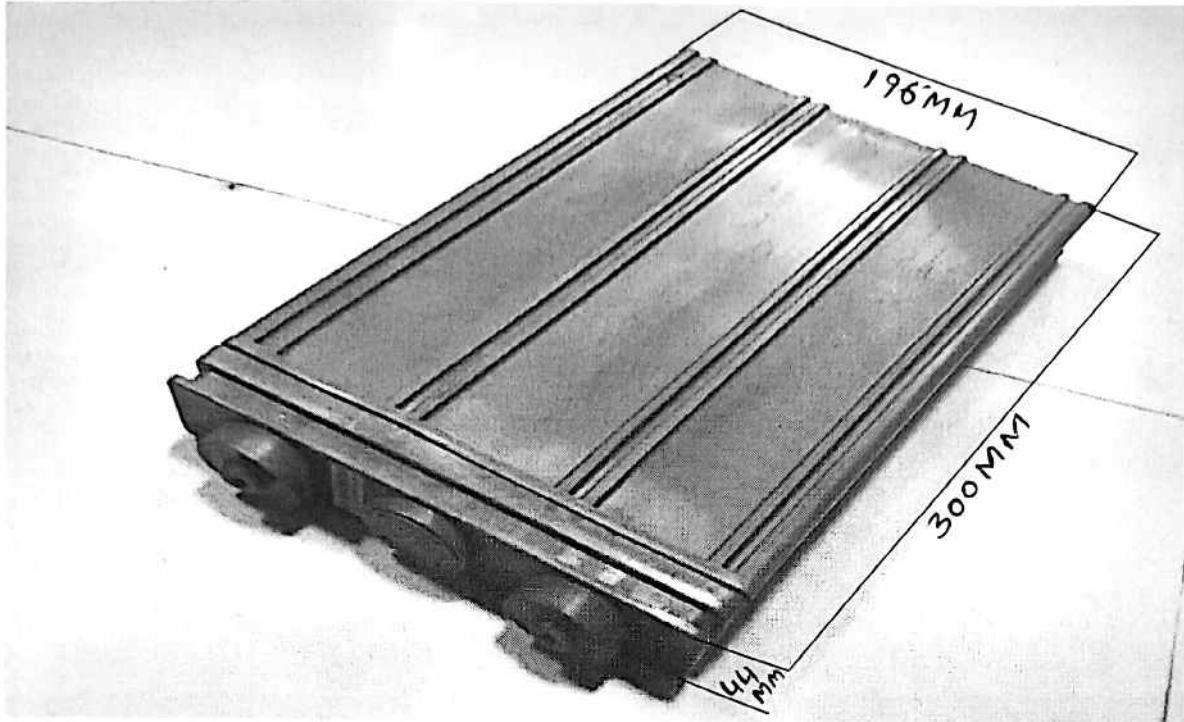
Remarks: The specifications have been framed keeping in view the working of existing bank UPS System and going through the available literature, including latest, on this subject from various sources.

However, any changes deemed to be applicable in the said specifications may please be considered /made by the higher officer.

  
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SUPPORT FOR  
FIXING OF  
PLASTIC  
SAFETY  
COVERS

ALL STACKS  
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WITH  
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SAFETY