

**Supply, Installation, Testing and Commissioning (SITC) of  
SMF VRLA Battery banks for UPS-1 & 2 at SVAB Substation.**

**(1) SCOPE OF THE WORK: -**

- i. Supply, installation, testing and commissioning of following Sealed Maintenance Free Valve Regulated Lead Acid (SMF-VRLA) Battery Bank sets conforming to IS15549 for UPS application including buyback of old batteries. New cells shall be supplied in factory charged condition.

**Battery bank having 250 Nos 2V, 200Ah cells –4 banks, Total: 1000 no's.**

**Old batteries for buyback - 1032 no's of 2V, 360 Ah VRLA batteries.**

**Rate quoted shall be as cost of new batteries minus the cost offered for old batteries under buyback.**

**Specifications of battery bank is attached as Annexure -I**

- ii. Interconnecting the individual cells with suitable cross section interconnectors (Flexible Insulated Copper conductors / uninyvin cables of adequate cross section/ copper strip) to form battery bank and shrouding the battery terminals with acrylic sheet is in the scope of the Supplier. Interconnecting battery bank to UPS is in the scope of the Department.
- iii. Supply and fabrication of battery stand of adequate strength to support the weight of the batteries/cells made out of steel structure, painting the stand with paint and positioning the batteries in the battery stand is in the scope of the supplier.
- iv. **Removal of existing battery bank connections, removing of the old batteries, battery stand and clearing the space for the installation of new battery bank is in the scope of the supplier. Removed battery cable connectors, battery stands shall be handed over to the Department. They are not included for the buyback.**

**(2) OTHER TERMS AND CONDITIONS:****A. Pre- delivery Factory inspection:**

The supplier shall arrange for Pre-delivery inspection at their factory. Intimation in this regard shall be communicated to the Department 10 days prior to the planned date of inspection.

Following shall be verified during factory inspection.

- (i) Dimensions verification as per manufacturer drawing.
- (ii) Measurement of Internal resistance of all the batteries.
- (iii) Measurement of Open Circuit Voltage of all batteries.
- (iv) C10 discharge test for battery samples as per IS 15549.
- (v) Any other acceptance tests as per IS15549 with latest amendments.

*Supply, Installation, Testing and Commissioning (SITC) of SMF VRLA Battery banks for UPS-1 & 2 at SVAB Substation.*

Dispatch clearance for the batteries will be given only after verification and satisfactory performance of the batteries during C10 discharge test.

**B. Marking, Packing and Forwarding:**

- (i) The supplier shall durably mark information on all the batteries as per **IS 15549**.
- (ii) The Supplier will be held responsible for proper packing for transport by rail, road, sea or air, to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by the supplier at his/her own expenses.
- (iii) Material handling support required for unloading of the batteries at our site is in the scope of the Department at **free of cost**. However, required manpower for unloading shall be arranged by the supplier.

**C. Installation, testing and commissioning at our site:**

- (i) The battery banks shall be installed and commissioned at site including positioning of batteries in stand, interconnection of batteries with connectors / cables, grouting of battery stand on floor. The lugs used for termination shall be heavy duty. **Battery positioning layout in the battery stand shall be submitted to the Department for approval.** Interconnecting battery banks to UPS is in the scope of the Department. Installation work is subject to the site clearance. Necessary communication will be made from Department regarding site clearance.
- (ii) After installation, C10 discharge test for the entire battery banks shall be carried out at site duly following the standard procedure. Required load for testing will be provided by the Department. Testing shall be carried out only in the presence of the supplier representative. If the battery banks are not delivering the required capacity at the end of the first discharge cycle, the battery discharge test has to be repeated till the required capacity is delivered by the battery banks. Batteries having lower capacity than acceptable / not qualifying the C10 discharge test shall be replaced by the supplier free of cost. Manpower required for the above installation and testing works shall be arranged by the supplier.

**D. Documentation:**

- (i) All the batteries shall be numbered serially for sequence.
- (ii) One hard copy Factory Acceptance Test reports and Site Acceptance Test reports shall be submitted after the successful installation, testing and commissioning.

(iii) Maintenance manual of batteries shall be submitted.

**E. Warranty:**

All the batteries shall be covered under warranty for a period of 24 months from the date of supply for any manufacturing defects and capacity reduction below 80% of nominal capacity. If any item is found defective, the items shall be replaced with new one free of cost. Necessary warranty certificate shall be submitted during supply.

**F. Payment Terms:**

- (i) 90 % of supply cost within 30 days of receipt and acceptance of items at our site
- (ii) 10 % of supply cost and 100 % of Installation and commissioning cost within 30 days after successful installation, testing, commissioning, acceptance of new batteries at our site and buyback of old batteries from our site.

**G. Delivery Schedule:**

- (i) Supply of batteries shall be completed within **8 weeks** from the date of placement of Purchase order.
- (ii) Installation, site testing, commissioning of new batteries at our site and buyback of old batteries from our site shall be completed within **3 weeks** from the date of site clearance.

**H. OEM Authorization certificate:**

Authorized dealers are eligible to quote. In case of authorized dealers, they shall enclose valid dealership certificate from the OEM without fail. In case no valid dealership certificate as required is submitted their offer will be rejected.

**I. Buyback of Old batteries:**

The price quoted shall be after considering the buyback price of old batteries. Lowest offer will be considered along with buyback cost and cost of SITC of new batteries only. Offers without buyback option shall be rejected.

**J. Documents to be uploaded:**

- (i) Specification of battery banks as in **Annexure-I** shall be duly filled and uploaded along with the quote
- (ii) Technical compliance statement as in **Annexure-II** shall be duly filled and uploaded along with the quote.
- (iii) Price breakup format is attached as **Annexure –III**, shall be duly filled and uploaded along with the quote.

## Specifications of Battery Banks

Sl. No	TECHNICAL PARTICULARS	DEPARTMENT SPECIFICATION	Specification offered
<b>1.0</b>	<b>Battery bank</b>		
1.1	Type	Stationary Sealed Maintenance Free Valve Regulated Lead Acid type	
1.2	Application	To be used in UPS application in float charge condition.	
1.3	Battery voltage	2 V (Nominal)	
1.4	Battery capacity	200 Ah @ C10	
1.5	Separators	Absorbed Glass Matte (AGM) technology	
1.6	Make of the Battery	Exide, Amco, Panasonic, Amararaja, Sonnenchein makes only	
1.7	Model	To be mentioned by the supplier.	
1.8	Battery container and lid material	PPCP (Poly Propylene Co Polymer)	
<b>2.0</b>	<b>Interconnectors</b>		
2.1	Material	Insulated flexible copper cable / uninyvin cable / copper strip of adequate cross section.	
<b>3.0</b>	<b>Battery stand</b>		
3.1	Fabrication Material	Steel structure of adequate strength. The bottom most row shall be at a suitable height from the floor level for which necessary channels / frames shall be introduced for proper clearance from the ground.	
3.2	Painting	Battery stand shall be painted with paint.	
4.0	<b>Earliest Acceptable date of Manufacture.</b>	All the batteries shall preferably of same batch of manufacturing. Preferred date of manufacturing shall not be more than three months from the date of placement of Purchase Order.	
5.0	<b>Buyback of old batteries</b>	<b>1032 no's of old 2V, 360 Ah VRLA batteries.</b> Rate quoted shall be inclusive of buy-back value of old batteries.	

## Technical Compliance Statement

#	Description	Vendor Compliance Yes / No
1.	<p>(a) Supply, installation, testing and commissioning of following Sealed Maintenance Free Valve Regulated Lead Acid (SMF-VRLA) Battery Bank sets conforming to <b>IS15549</b> for UPS application including buyback of old batteries. New cells shall be supplied in factory charged condition.</p> <p><b>Battery bank having 250 Nos 2V, 200Ah cells –4 banks, Total: 1000 no's.</b></p> <p><b>Old batteries for buyback - 1032 no's of 2V, 360 Ah VRLA batteries.</b></p> <p><b>Rate quoted shall be as cost of new batteries minus the cost offered for old batteries under buyback.</b></p> <p>(b) Interconnecting the individual cells with suitable cross section interconnectors (Flexible Insulated Copper conductors / uninyvin cables of adequate cross section/ copper strip) to form battery bank and shrouding the battery terminals with acrylic sheet is in the scope of the Supplier. Interconnecting battery bank to UPS is in the scope of the Department.</p> <p>(c) Supply and fabrication of battery stand of adequate strength to support the weight of the batteries/cells made out of steel structure, painting the stand with paint and positioning the batteries in the battery stand is in the scope of the supplier.</p> <p><b>(d) Removal of existing battery bank connections, removing of the old batteries, battery stand and clearing the space for the installation of new battery bank is in the scope of the supplier. Removed battery cable connectors, battery stands shall be handed over to the Department. They are not included for the buyback.</b></p>	
2.	<p><b>2V, 200 Ah Battery bank as per specifications mentioned in Annexure –I of tender document. If any deviation, same shall be brought out.</b></p> <p><b>Mention Make and Model of Batteries _____</b></p>	
3.	<p>Following shall be as per specifications in the tender document.</p> <p>a. Pre delivery factory inspection</p> <p>b. Marking, packing and forwarding</p> <p>c. Installation, testing and commissioning of battery bank.</p> <p>d. Documentation</p>	

#	Description	Vendor Compliance Yes / No
	e. Warranty f. Payment Terms g. Delivery schedule h. OEM Authorization certificate If any deviation, same shall be brought out.	
4.	<b>Buyback of Old batteries:</b> The price quoted shall be after considering the buyback price of old batteries. Lowest offer will be considered along with buyback cost and cost of new batteries only. <b>Offers without buyback option shall be rejected.</b>	
5.	The party shall sign every page of this document as a token of acceptance of specifications of tender document.	

## Price Breakup Format

Prices shall be indicated only in the price bid and shall not be indicated in this format.  
Mention as “quoted”

#	Item name	Quantity	Unit cost (Rs.)		Total cost (Rs)
			Cost	Taxes	
		(a)	(b)	(c)	(b+c)xa
1	a. Supply of 2V, 200 Ah SMF-VRLA cells conforming to IS :15549 as specified in the Annexure.	1000			--- I
	b. Cost offered for buyback of 2V, 360Ah SMF VRLA cells	1032			--- II
2	Net cost for supply of battery (I) – (II)  <b>This cost shall be entered in the price bid against S.no: 1</b>				
3	Removal of existing battery banks and Installation, testing and commissioning of new battery banks having 250 nos. of 2V, 200 Ah cells-4sets including supply of interconnectors, battery stand as specified in the Annexure.	Lot			

**Sl.no: 02 & 03 together will be considered for arriving lowest offer**