

7. SECTION IV: Bidder's Scope of Work

7.1 Preamble

This document defines the Scope of Work (SoW) and technical requirements for the supply, transportation, installation, testing, commissioning, health assessment, and environmentally compliant

buyback/disposal of 12 V, 200 Ah SMF/VRLA fire-retardant batteries and complete battery banks for

Schneider make Galaxy series UPS systems installed at ITI Data Centre.

All works shall be executed in close coordination with the ITI Data Centre O&M team, ensuring zero

impact on data centre uptime, with planned changeover windows during low-load periods and full

compliance with applicable electrical, safety, and environmental regulations, as well as OEM recommendations.

The bidder shall visit the site prior to bidding to assess existing battery banks, racks, interlinks, DC

breakers, and related accessories, and shall clearly indicate in the offer any components found unsuitable

along with proposed replacements and unit rates.

7.2 Scope of Work Overview

a) Supply of new 12 V, 200 Ah SMF/VRLA fire-retardant batteries and associated accessories.

b) Pre-replacement health assessment and IR impedance testing of existing battery banks.

c) Safe dismantling and removal of existing batteries.

d) Installation, testing, and commissioning of new battery banks.

e) One-to-one buyback and environmentally compliant disposal of old batteries through authorised recyclers.

f) Documentation, training, warranty support, and SLA compliance.

7.3 Site Activities

- The vendor shall carry out pre-replacement health assessment, including voltage measurement, visual inspection, and IR impedance testing of existing battery banks.

- The vendor shall prepare a detailed execution plan covering string replacement sequence, maintenance windows, bypass arrangements, risk assessment, safety measures, and uptime protection plan.

- New batteries shall be installed with proper insulation, correct polarity, torque tightening as per OEM, anti-corrosion compound where required, and all necessary inter-cell/inter-string connectors and cables.

- Post-installation testing shall include voltage verification, charger parameter tuning, functional UPS battery testing, rectification of abnormalities, and submission of final commissioning reports.

7.4 Buyback and Disposal

- The purchaser intends to proceed with one-to-one buyback of existing Rocket/Quanta make or

equivalent batteries removed from service.

- The supplier shall pick up the used batteries after installation, testing, and acceptance by ITI or its consultant.
- Disposal shall be carried out only through authorised recyclers in compliance with applicable environmental, hazardous-waste, and e-waste rules.
- The vendor shall ensure no electrolyte spillage or damage to floors, racks, or adjacent equipment, and any damage shall be made good at the vendor's cost.

7.5 Documentation and Training

- With offer submission, the bidder shall provide general battery arrangement drawings, catalogues, technical literature, and compliance declarations.
- After award, the vendor shall submit detailed layout drawings, GA and cross-sectional details, manuals, and technical data sheets for approval.
- At commissioning and handover, the vendor shall submit pre- and post-installation test reports, as-built diagrams, and warranty certificates.
- The vendor shall conduct operator training for the ITI O&M team covering maintenance checks, alarm interpretation, and battery life best practices.

7.6 Warranty and Guaranteed Life

- The vendor shall provide a comprehensive onsite warranty of thirty-six (36) months from the date of successful commissioning and acceptance at site.
- The minimum guaranteed service life shall not be less than five (5) years (preference for 10 years design life as per Requirement Summary).
- Defective batteries failing prematurely or not meeting guaranteed performance shall be replaced at vendor's cost, except where failure is due to operation outside manufacturer's specified limits.

7.7 Safety and Statutory Compliance

- All works shall comply with ITI site safety rules, applicable Indian electrical safety standards, and relevant OEM recommendations.
- Vendor staff shall use appropriate PPE, insulated tools, and follow safe isolation, lockout/tagout, and battery-handling procedures at all times.
- The vendor shall comply with all applicable labour, safety, and environmental laws/regulations and shall indemnify ITI against any violations thereof.

7.8 Packing, Transport, and Storage

- Equipment shall be packed and protected against deterioration, damage, or breakage during shipment, trans-shipment, and storage in tropical conditions.
- Each package shall be properly labelled with type and quantity, Purchase Order number, gross and net weight, dimensions, and other identification data.
- Supplier shall not dispatch equipment without prior written shipping clearance from ITI's authorised representative.

8. Technical Specifications & Quantity

8.1 Quantity and Configuration

- Battery rating shall be 12 V, 200 Ah SMF/VRLA type with fire-retardant properties, suitable for UPS float duty applications.
- UPS configuration: 500 kVA, 8 nos., with 15 minutes' backup. Each UPS shall have 3 strings of 44 batteries, totaling 132 batteries per UPS and 1,056 batteries overall.
- The initial requirement includes 1,056 batteries for 500 kVA UPS systems. Additional batteries shall be supplied for replacement of failed units identified through internal resistance (IR) impedance testing, up to the approximate total finalized by ITI during execution.
- Batteries shall be of reputed make such as Rocket, Amaron, or Exide, approved by ITI, and suitable for data centre UPS applications with high reliability and long service life.
- The date of manufacture of supplied batteries shall not be older than three (3) months from the date of delivery at site, unless otherwise approved in writing by ITI.

8.2 Technical Specifications

- The batteries and accessories shall comply with the latest editions of the applicable standards including IS 1652, IS 6071, IS 266, IEC 60896 Part 1 & 2, BS 6290-4, Eurobat Guide, and ISO 9001.
- Closed-type sealed maintenance-free (SMF) lead-acid VRLA batteries of 12 V nominal rating and 200 Ah at 10-hour discharge rate shall be supplied.
- Containers and lids shall be of special-grade polypropylene copolymer or ABS, robust, leak-proof, non-absorbent, acid-resistant, and suitable for tropical conditions.
- Separators shall be AGM or equivalent synthetic material conforming to IS 6071, and electrolyte shall be battery-grade sulphuric acid conforming to IS 266.
- Battery casing/material shall be fire-retardant and supported by valid certification from recognized laboratories or standards.

8.3 Electrical Performance and Tests

- Batteries shall remain on float charge through the UPS charger and support full UPS load during mains failure without assistance from the charger.
- Float voltage of each unit shall remain within ± 0.05 V of the average float voltage per unit in the string.
- Bidder shall submit type test reports, not older than five years from bid opening, for construction, dimensions, capacity, retention-of-charge, endurance, ampere-hour and watt-hour efficiency, and voltage during discharge.
- Acceptance tests shall be performed on selected batteries/strings in the presence of the purchaser's representative at the supplier's cost.
- Batteries failing to meet guaranteed requirements shall be replaced within ten (10) days of

notification.

8.4 Accessories

- Vendor to provide suitable racks with durable painting as per standard and insulating mats on which the batteries shall be placed; rack drawings to be submitted by vendor.
- Suitable interconnectors / tinned copper interlinks with lugs to be provided.
- Good quality proper clips for both positive and negative terminals.
- DC breaker of suitable rating and required cables for interconnection.
- Poster of Dos and Don'ts as per standard to be displayed for each battery bank.