

**TECHNICAL SPECIFICATION FOR
30 V, 100 AH STATIONARY
BATTERIES AND BATTERY CHARGING EQUIPMENT.**

SPEC. NO. STORES /MSC-II/30V,100 AH Battery set & charger /2011

INDEX

Sr.No.	Particulars	Page
1)	Scope	
2)	Service conditions	
3)	Standards	
4)	Part-I, Batteries	
5)	Part II, Battery Charger	
6)	Testing facilities	
7)	Inspection	
8)	Drawings	
9)	Schedules	
	Schedule A	
	Schedule B	
10)	General Technical Particulars	

Technical Specification for 30 Volt –100 Ah Stationary Batteries and Battery charging equipment.

SPEC. NO. STORES /MSC-II/30V,100 AH Battery set & charger /2011

1. Scope : The specification covers the design, manufacture, testing at the Manufacturer's works, Inspection, delivery, erection and commissioning of 30 V, 100 Ah stationary batteries and battery chargers to required for various 33/11 KV Sub-stns. in Rural Electrification System of Maharashtra State Electricity Distribution Company Ltd.

APPLICATION:

The system requires a reliable and uninterrupted D.C. supply for supplying D.C.. Power to emergency lights, closing and tripping coils of circuit breakers, relays semaphores etc.

2. Service conditions:

Equipment to be supplied against this specification shall be suitable for satisfactory continuous operation under the following tropical conditions.

2.1	Maximum ambient temperature (Degree C)	50
2.2	Maximum temperature in shade (Degree C)	45
2.3	Minimum Temperature (Degree C)	3.5
2.4	Relative Humidity (percent)	10 to 95
2.5	Maximum Annual rain fall (mm)	1450
2.6	Maximum wind pressure (kg/sq.m)	150
2.7	Maximum altitude above mean sea level (Meter)	1000
2.8	Isoceranic level (days per year)	50
2.9	Siesmic level (Horizontal Acceleration)	0.3 g
2.10	Moderately hot and humid tropical climate conductive to rust and fungus growth	

3. Standards:

Unless otherwise specified, the equipment shall conform to latest applicable Indian standard of equivalent IEC, British or USA standard and in particular to the following standard (or equivalent IEC British, USA standard):

- a) IS: 1651/1991 Specification for stationary lead acid (with Tubular plate).
- b) IS:3895/1966 specification for the rectifier equipment in General.
- c) IS:9224 Specification for HRC fuses.
- d) IS: 1248 Indicating instrument.
- e) IS:375 /1963 Specification for wiring.
- f) IS: 4540/1968 Monocrystalline semiconductor rectifier assemblies
- g) IS:4540/1968 Monocrystalline semi-conductor rectifier assemblies and equipment.
- h) IS:2026 Transformers.

- i) IS: 13947/ 1993 Contactors for voltage not exceeding 1000V
- j) IS:13947/1993 Air break switches.
- k) IS: 5/1978 Colour for ready mix paint.
- l) IS: 5421/1981 Printed Circuit Board.
- m) IS: 8828/1993 Miniature circuit Breakers.

The tenderer shall clearly state the standard to which the equipment offered by him conforms.

4.0 PART –I : BATTERIES.

TECHNICAL SPECIFICATION FOR LEAD ACID BATTERIES (30 V/100 Ah)

4.1 Low maintenance type of Lead Acid stationary Batteries incorporating Special Grid Alloy of lead selenium with Tubular positive plates assembled in 2 Volt containers with a capacity of 100 Ampere –hour at 10 hour rate of discharge to an end voltage of 1.85 V per Cell having Electrical performance as per IS:1651/1991 or its latest version amended upto date.

4.2 Each Cell shall be fitted with one acid level-indicating float. The terminals of the battery shall be

suitable for receiving cable lugs. 15 Nos. of 2 volts 100 Ah Cell connected in series shall form one set of 30 volts 100 AH. Each battery set of 30 volts shall be supplied with the following accessories.

- | | | | |
|------|-------------------------------------------------------------------------------------------------|---|------------------|
| 1) | a) Inter battery connector of lead plated copper of coss section not less than 50 sq.mm. | : | 14 Nos +2 extra. |
| | b) Lead plated 2 nut bolts and 2 washers set | : | 30 sets+4 extra |
| 2) | Syringe type Hydrometer | : | 1 No. |
| 3) | Thermometer with specified gravity correction scale. | : | 1 No. |
| 4) | Voltmeter of range 3-0-3 v with leads | : | 1 No. |
| 5) | Set of Spanners (2 spanners) | : | 1 set |
| 6) | Rubber syringe | : | 1 No. |
| 7) | Log books | : | 1 No. |
| 8) | Inspection sheet | : | 1 No. |
| 9) | Electrolyte of dilute Sulphuric Acid in non –returnable carboy including 10% extra Electrolyte. | : | 1 Lot |
| 10) | Wooden stand of teakwood. | : | 1 stand |
| 11) | Cell Insulator (for mounting) of Hard rubber(15+6 extra) | : | 66 Nos. |
| 12) | Stand Insulators for mounting of stand of hard rubber | : | 6 Minimum. |
| 13) | Cell Number indicating plates with fixing pins | : | 15 Nos. |
| 14) | Acid resistance funnel | : | 2 No. |
| 15) | Acid resistance Jug | : | 2 nos. |
| 16) | Rubber Aprons | : | 2 Nos.. |
| 17) | Rubber hand gloves | : | 2 Pairs |
| 18) | Rubber syphon | : | 1 No. |

4.3 The expected life span of the batteries shall be minimum, 10 years.

- 4.4 The container shall be of hard rubber and shall be sufficiently robust and free from flaws.
- 4.5 Electrolyte: The Electrolyte shall be battery grade conforming to IS:266 or its latest version amended upto date.
- 4.6 Life : The tenderer shall quote in his offer the guaranteed life of the battery when operating under the conditions specified in the specification.
- 4.7 Wooden Stand: Battery racks and stand constructed out of teak wood and painted with atleast 3 coats of acid resistant paint. The construction of the racks shall be suitable for fixing to flat concrete floor. The racks shall be rigid, free standing type and free from warp and twist. The assembled racks shall be suitable for being bolted end to end to form continuous row.
- 4.8 Battery shall be transported in dry , uncharged condition . The electrolyte shall be supplied separately in non-returnable container of acid resistant material. Each battery set shall be supplied with operation / commissioning manual.
- 4.9 The following characteristics have to be satisfied by the batteries offered:
- i) Loss of capacity on storage of a fully charged battery stored for 28 days shall not be more than 3%.
 - ii) Ampere hour efficiency shall not be less than 97 %.
 - iii) Distilled water addition once in 6 months should be sufficient to maintain the electrolyte level.
 - iv) The battery should withstand conditions of under- floating and over- floating.
 - v) The battery should be capable of being maintained at a higher Electrolyte specific gravity of 1.230 +/- 0.005 without deterioration to Grid corrosion.
 - vi) The tenderer should furnish sufficient evidence of his capability to manufacture the low maintenance batteries.
- 4.10 Test on Battery:
All test shall be carried as per the relevant standard.
Test shall comprise of type tests and Acceptance Tests.
- 4.10.1 Type Tests :
- These are to be performed at manufacture's works and shall include the following tests .
- i) Verification of constructional requirement.
 - ii) Verification of marking.
 - iii) Verification of dimensions.
 - iv) Test for capacity.
 - v) Test for voltage during discharge.
 - vi) Amperhour and watt – hour efficiency test.
 - vii) Test for loss of capacity on storage.
 - viii) Endurance test.

4.10.2 Acceptance Test:

These tests shall be performed in presence of purchaser's representative from the sample selected from the lot offered for supply.

- i) Verification of constructional requirement.
- ii) Verification of marking.
- iii) Verification of dimensions.
- iv) Test for capacity.
- v) Test for voltage during discharge.
- vi) Ampere hour and watt – hour efficiency test.

4.10.3. : If the tenderer have already carried out the type test of same design and type of batteries against MSEDCL's past orders in that case, the waiver for carrying out of Type Tests shall be obtained from **office of the C.E. (Stores)** before commencement of supply.

PART II

5.0 BATTERY CHARGER.

TECHNICAL SPECIFICATION FOR BATTERY CHARGER.

5.1 SUPPLY : AC input : 240 volts +20 % & - 25%, 50 HZ +/- 5% , Single phase supply.

5.2 CHARGER SYSTEM OPERATION:

5.2.1. The Battery Charging Equipment shall be float-cum- Boost type with facility to supply the DC continuous load also. During normal operation, the Battery is floated across the Battery charger at 32-34V(2.16 V/2.75 V per cell) and also supplies the load current (6 Amps) . Whenever the battery has run down, it needs to be charged by passing higher current into (10 Amps), this calls for higher voltage upto 35-42 V (2.35 V/2.75V per cell) for Boost charging the batteries. The charger shall provide this extra voltage for Boost charging.

5.2.2 During boost charging, voltage across the battery terminal will go higher at the order of about 35-42 volts for which suitable automatic solid state transistorized dropping device shall be provided (maintain 30 Volts + / - 2 volts across the load terminal.

5.2.3 Battery Charging Equipment shall be fully automatic for Float and Boost charging facility with suitable indication on front of the panel by means of LED indication. For this automatic solid state changeover relay shall be provided. During AC main fail, Battery supplies the load and gets discharged. The extent of discharge depends on the time of power failure and the current drawn by load, when the mains are restored after power failure. Battery shall put on automatically on boost mode. During this time , load voltage shall be maintained by load regulator 30 V +/- 2 Volt. After the Battery gets fully charged i.e. its voltage reaches 40-42 Volts, it should automatically switch over to trickle mode & when Battery voltage falls below 30 volts, the charger should automatically switch over to quick mode.

5.2.4 The manual mode should be fully independent so that no element of electronic controller comes into it's operation. This shall also include an independent full wave bridge rectifier of suitable rating output of which will be connected to load and battery by means of a contactor controlled switch on the front panel. Output of the charger in manual mode to be maintained below 35 volts by means of selector switch , the suitable tap on the secondary side of power transformer by the operator.

5.3 RATING :

a) At Load Terminal :

During Float charging or Boost charging, the load voltage shall be maintained $30\text{ V} \pm 2$ Volt. For AC input voltage variation of +20 % & -25 % and load variation of 0 to 100 %. Also system shall provide 6 Amps continuous current and also momentary current of 30 Amps for one second.

b) At Battery Terminal :

- i) Trickle charge voltage 32-34 volts (2.16 V/2.25V per cell) at 200 mA maximum.
- ii) Quick charge voltage 35-42 volts (2.35V/2.75 V per cell) at 6/10 amps.

c) RIPPLE :

The ripple content in the DC output of Battery Charger shall be limited to 5 % RMS.

5.4 COMPONENTS :

The Battery charger shall comprise of following components but not limited to the same :

- a) Double pole AC circuit breaker for AC incoming of the battery charger (MCB).
- b) ON/ MAIN lamps/ LEDs for AC Mains supply charger 'NO' lamp/ LED for DC output.
- c) Single phase, double wound, Air Natural Cooled, Vacuum impregnated transformer of CRGO lamination and copper winding.
- d) Single phase, full wave SCR bridge 25 A rating (Silicon controlled rectifier) together with suitable heatsinks and RC suppression network..
- e) Automatic solid state voltage / current controller for automatic control of voltage and current during float/ boost charging the batteries complete with manual control facility.
- f) Auto /manual mode selector switch (25 A AC rating) with Indication lamp/ LED for respective position.
- g) Float/ Boost indicator lamps/LED.
- h) Potentiometers to adjust DC output voltage and current in respective modes.
- i) Smoothing (filter) circuit comprising of smoothing choke, and filter condenser to reduce ripple content in the DC output of the Battery charger to 5% RMS.
- j) DC moving coil or digital ammeter of 0-20A rating.
- k) DC moving coil or digital voltmeter of 0-50 V rating with selector switch and HRC fuse to measure voltage of Charger/ Battery and Load.
- l) Solid state automatic load voltage regulator to maintain the load voltage of 30 V +/- 2 V(rating of the regulator shall be 6A continuous and 30 A for one second) during Float charging or Boost charging of the Batteries.
- m) Double pole DC circuit breaker for Battery protection (MCB).
- n) DC contactor to by-pass automatic load voltage regulator in the event of AC mains fails to allow the full battery across the load.
- o) AC Voltmeter 96X 96 sq.mm of rating 0 to 300 V.
- p) Fuse fail indication lamp/ LED for load and Battery fuses.

5.5 DC DISTRIBUTION BOARD

DC Distribution Boards feeders shall be mounted on the charger cubicle itself with following rating.

- a) One No. of outgoing feeder with double pole circuit breaker of 63 A rating (MCB) suitable for 3 kA rupturing capacity at 48 V DC.
- b) 2 Nos of outgoing feeders with double pole circuit breaker of 32 A rating (MCB).
- c) One No. of outgoing feeder with double pole circuit breaker of 16 A rating (MCB).
- d) Battery fuse fail & load fuse fail and charger trip due to overload indication on the front panel shall be brought alongwith reset switch.

5.6 Charger cubicle shall be supplied completely wired upto terminal block for purchaser's external connection using solder less crimping type copper lugs. All wiring shall be carried out with 1100 V grade single shall be flame/ vermin and ridden proof. All wiring shall be neatly bunched without affecting access to equipment/ components mounted within the cabinet. Suitable two earthing terminal and outgoing terminal shall be supplied to connect the external supply cables.

5.7 Special Feature:

- a) All printed circuits boards used in the Battery charger shall be solder marked, glass, epoxy, FR 4 grade copper clad material having age type gold plugging connectors conforming to latest IS-IEC specifications. All assembled PCD conforming coating on component side & epoxy varnish on the other side.
- b) Transformer shall be with class –B insulation having a continuous rating atleast 125% of the rating of the charger. Reactance of the transformer shall be suitable to take care of regulation and surges.
- c) Tenderer shall furnish full description and illustration of all components complete with quantity, make, rating, type, tolerance etc. including, but not limited to the list of components given above.
- d) Electronically controlled circuitry should have a built in feature of soft start so that whenever a charger is switched on the output voltage should increase gradually. This circuit shall have also built- in current limiting circuit to drop the cutout voltage on current more than 100% of the rated voltage and the charger should be protected against short circuit across the load terminal/ Battery charger terminal.
- e) Following make of components shall be used in the Battery charging equipment or equivalent approved by C.E. (Stores) MSEDCL, Mumbai.

i)	Switches	Kaycee/ Recon
ii)	Meters	AEL/IMP/USHA
iii)	Contacts /Relay	L&T/Siemens/A
iv)	MCB	MOS/Standard
v)	HRC fuses	English Electric/Standard/Corporation
vi)	SCR	USHA/HIRECT/Meltron

vii) Diode	USHA/Keltron/Meltron
vii) Lamps/LED	Essen/vaishana
ix) Filter condenser	Rescons/Elecon
x) Potentiometer	Pankaj/Sato
xii) Voltmeter A.C.	IMP/AE/Erishab/ Meco

- f) The charger cubicle will be indoor type with all associated and auxiliary equipments mounted therein.
- g) The charger cabinet shall be 2 mm. Thick sheet steel enclosed and shall be dust weather and vermin proof of suitable thickness indicated in the specification. The minimum overall dimension of the charger shall be height 1100 mm. Width – 600 mm. And depth 400 mm.
- h) The cabinet shall be free standing floor mounting type as well as wall amounting type the enclosures of the cabinet shall provide high degree of protection IP-42 as specified in IS:13947.
- i) All doors removable covers and plates shall be gasketed all around with neoprene gasket. Louvers, when provided shall have screens and filters. The screen shall be of fine wire mesh made of G.I. wire.
- j) All sheet steel works shall be degreased, pickled phosphate and then applied with two coats of Zinc primer and two coats of finishing synthetic enamel paint of light gray as per IS : 631, both inside and outside.
- k) All fuses shall be the HRC cartridge types conforming to IS: 2208 mounted on plug type fuses bases.
- l) Electrical indicating instruments shall be flush mounted on panel with only flanges projecting. Dial shall be white with black number and lettering.
- m) Control and instrument switches shall be of rotary type.
- n) Indicating lamps shall be filament type having double contact bay net caps/ LED type with low watt consumption. The lamps / LEDs shall be provided with series resistors to prevent short-circuiting of control supply on filament.
- o) Strip type space heaters of adequate capacity shall be provided inside each cabinet to prevent moisture condensation.
- p) Charger cabinet shall be supplied completely wired of suitable size ready for purchasers external connections at the terminal blocks. All wiring shall be carried out with 1100 V grade PVC insulated standard conductors.
- q) All door mounted equipments as well as equipment mounted inside the cabinet shall be provided with individual labels with equipment designated engraved.
- r) Battery charger cabinet shall be provided with two separate suitable earthing terminals.

- s) The supplier of battery charger shall fully co-ordinate with the supplier of battery in the event of the purchaser deciding not to place order for both equipments on the same supplier.
- t) Detailed dimensional drawing / commissioning operating / instructional manuals manual / type test report should be necessarily enclosed alongwith the offer. Each unit shall be supplied with drawings and instruction manual.
- u) All Deviations form this specification shall be set out by the tenderer and should be brought out clearly.

5.8 Method of cooling of charger equipment shall be specified by the bidder and various tests to be conducted on batteries as per relevant applicable standard.

5.9 Safety Arrangements

5.9.1 Two earthing studs of M.S. 50 mm long & 12 mm dia shall be provided for external earth connections. These should be complete with plain washer, spring washer, nuts etc. Earthing Bolts must be welded to prevent removal of the same form the Box.

5.9.2 All live connections shall be carried out on the Battery Charging equipment.

- 1) Physical checking of charger as per approved drawing.
- 2) Insulation resistance test.
- 3) High voltage test (2.0 KV).
- 4) Line regulation test at NO Load and full load in test at load in Flat/ boost mode.
- 5) Full load ripple content measurement test at load terminals in float and boost mode.
- 6) Voltage regulation test at load terminal and Battery terminals in float and boost mode.
- 7) DC short circuit test without blowing HRC fuses and without tripping MCBs at load terminal and also at Battery charger output terminals with observation of total current limit.
- 8) Efficiency measurement test at full load and 20% load.
- 9) Checking of automatic operation Float to Boost, Boost to float mode as per Battery condition.
- 10) Checking of Battery voltage, load voltage and Load current Boost Mode at different charging current.
- 11) Temperature rise test of complete charger at full load current (10+6) A @ ambient temperature.
- 12) Checking of battery & Load Terminal voltage in manual Mode operation at different position of Manual Mode Selector Switch.
- 13) Checking of automatic connection of Battery to load in case of 'Mains Failure' or Charger Trip' conditions.
- 14) Checking of Float voltage setting range and Boost current setting Range in Automatic Mode.
- 15) Any other routine test shall be carried as per IS : 4540 on the complete battery Charging equipment.

5.10.2 For acceptance of lot all above routine tests and below mentioned PCB Tests shall be carried out on selected 2 samples.

PCB Test : Each assembled PCB shall subject to following test at manufacture's work..

- a) Burn in at 70 degree C for 72 hours.
- b) Rapid temperature cycling at 70 degree C & 0 degree C for 30 minutes at each temperature (5 such cycles) facility for conducting the above tests shall be clearly mentioned in the offer.

5.0 Testing Facilities

The tenderer must clearly indicate what testing facilities are available in the works of manufacture and whether the facilities are adequate to carry out all Routine, Acceptance and Type tests. These facilities should be available to MSEDCL's Engineers, if deputed to carry out or witness the tests in the manufacturer's works. If any of the tests can not be carried out in the manufacturer works, the same should be clearly stated.

6.0 Inspection :

All tests and inspection shall be made at the place of manufacturer unless otherwise specially agreed upon by the manufacturer and the purchaser. The manufacturer shall provide the purchaser all reasonable facilities , without charge to satisfy him that the material is being supplied in accordance with this specification.

7.0 Drawings :

The bidders will have to submit the tender drawings (General Arrangement , constructional details, mounting and bill of material for battery and charger with offer. The successful bidder will have to submit the final drawings for approval **of office of the Chief Engineer (Stores)** and shall get it approved within 15 days.

8.0 Schedules:

The tenderer shall fill in the following schedules, which is part and parcel of the tender specification and offer. If the schedules are not submitted duly filled in with the offer, the offer shall be liable for rejection.

Schedule A ----- Guaranteed Technical Particulars.
Schedule B ----- Tenderer's Experience.

Schedule 'A'

Guaranteed Technical Particulars of 30 V, 100 AH Lead Acid Battery Sets AND BATTERY CHARGER		
Sr.NO	GTP Parameters	
1	Name of manufacturer	Text
2	Type of Battery (As per specifications)	Text
3	Reference Standard IS : 1651 / 1991 or latest version amended upto date	Text
4	Whether one - acid level indicating float to each cell is fitted (Yes / No)	Boolean
5	Whether batteries terminals have suitable cable lugs (Yes /No)	Boolean
6	Arrangement of Battery cells (15 nos of 2 V , 100 AH cells connected in series to form one sets of 30 V, 100 AH)	Text
7	Whether following accessories shall be supplied with each battery set (Yes / No)	Boolean
8	i) Inter Battery connector of lead plated copper with cross section not less than 50 sq.mm : 14 nos + 2 extra (Yes /No)	Boolean
9	ii) Lead plated 2 nut bolts and 2 washers sets : 30 sets + 4 extra (Yes / No)	Boolean
10	iii) Syringe type Hydrometer with specified gravity correction scale : 1 No (yes /No)	Boolean
11	v) Thermometer : 1 No (Yes /No)	Boolean
12	v) Voltmeter of range 3-0-3 with leads or Digital voltmeter : 1 No (Yes/No)	Boolean
13	vi) Set of spanners suitable to used nutbolts (2 spanners) : 1 set (Yes /No)	Boolean
14	vii) Rubber syringe: 1 No (Yes /No)	Boolean
15	viii) Log Book : 1 No (Yes / No)	Boolean
16	ix) Inspection sheet : 1 No (Yes / No)	Boolean
17	x) Electrolyte of dilute sulphuric acid in non - returnable carboy including 10 % extra electrolyte: 1st lot (Yes /No)	Boolean
18	xi) Cell insulators of Hard rubber (for mounting) (15 + 6 extra) : 66 nos (Yes/No)	Boolean
19	xii) Stand Insulators of stand of Hard rubber not less than 6 Nos (Yes/No)	Boolean
20	xiv) Cell number indicating plates with fixing pins : 15 Nos (Yes/No)	Boolean
21	xv) Acid Resistance Funnel : 2 nos (Yes/No)	Boolean
22	xvi) Acid Resistance Jug : 2 Nos (Yes/No)	Boolean
23	xvii) Rubber aprons : 2 nos (Yes /No)	Boolean
24	xviii) Rubber Hand Gloves (Yes /No)	Boolean
25	xix) Rubber Syphons : 1 No (Yes / No)	Boolean
26	xx) Wooden stand of teak wood : 1 No (Yes /No)	Boolean
27	The expected life span of the batteries shall be minimum 10 years (Yes/No)	Boolean
28	A. Loss of capacity on storage of fully charged battery stored for 28 days shall be not be more than 3 % (Yes /No)	Boolean
	B. If Yes , State the percentage	Text
29	A. Ampere hour efficiency shall not be less than 97 % (Yes /No)	Boolean
	B. If yes. State the percentage	Text
30	Whether battery withstand under floating and over floating conditions (Yes / No)	Boolean
31	Whether the battery is capable of being maintained at a higher Electrolyte specific gravity of 1.230 ± 0.005 without deterioration to Grid corrosion (Yes / No)	Boolean
32	Whether following type tests are performed on 2V , battery cell : (Yes /No)	Boolean
33	i) Verification of constructional requirement (Yes /No)	Boolean

34	ii) Verification of marking (Yes /No)	Boolean
35	iii) Verification of dimensions (Yes/ No)	Boolean
36	iv) Test of capacity (Yes /No)	Boolean
37	v) Test for voltage during discharge (Yes / No)	Boolean
38	vi) Ampere- hour and watt hour efficiency test (yes / No)	Boolean
39	vii) Test for loss of capacity on storage (Yes/No)	Boolean
40	viii) Endurance Test (Yes/No)	Boolean
41	Whether above type tests (Cl. 13) are carried out within 5 years (Yes / No)	Boolean
42	Whether it is agreed to perform Acceptance tests (as listed under Cl. No.13) at manufacturer's site in presence of purchaser's representative from the sample selected from the lot offered for supply (Yes / No)	Boolean
43	Dimensions of wooden stand (LX BX H) in mm	Text
44	Material of container (Yes/ No)	Boolean
45	Overall dimensions of each cell (L X B X H)	Text
46	Distance between the centers of cells when erected (in MM)	Text
47	Weight of cell complete with Acid (in KG)	Text
48	Type and material of cell separator	Text
49	Amount and specific gravity (1.230 ± 0.005) of electrolyte at the end of full charge	Text
50	Loss of capacity on storage of fully charged battery stored for 28 days	Text

Schedule ' B'

Schedule of Tender's Experience

Tenderer shall furnish here a list of similar orders executed under execution by him to whom a reference may be made by purchaser in case considers such a reference necessary.

Sr. No.	Name of Client & Description. Order	Value of Order alongwith Qty.	Period of supply and commissioning	Name & Address to whom reference may be made
1	2	3	4	5

Name Of Firm -----

Name & Signature of the tender -----

Designation -----

Date : -----.