

المواصفات الفنية الخاصة بالمناقصة العامة

رقم المناقصة : (٢٠١٢/٢٣)

الخاصة بشراء وتوريد (٨٩) مجموعة بطاريات جافة

مختلفة السعات

المؤسسة العامة للاتصالات السلوكية واللاسلكية

الإدارة العامة للمشتريات والمخازن

إدارة المشتريات - قسم العقود والمناقصات

الرقم :
التاريخ :

PTC Technical Specifications: Battery

SPECIFICATIONS FOR BATTERIES (SEALED LEAD ACID CELLS)

المجموعة الأولى

This specification defines the requirements of the batteries **Sealed Lead Acid Cells** for power source for telecommunication systems.

1. Batteries required:

- 1- The batteries requirement shall be sealed lead acid battery system, high reliability, high quality standards, high rate discharge heavy duty industrial and high impact resistance **SEALED FREE MAINTENANCE**.
- 2- Set consisting of 24 cells with nominal voltage 48V/DC (each cell 2V and must be single).
- 3- Rated capacity of each set = XXXXAH@C10 to 1.8V pc.
- 4- Quality assurance requirement.
- 5- The tender should provide 5 years full warranty period and country of origin, documentations.

2. Autonomy time:

- 1- Two parallel batteries group that composites an ampere-hours rating sufficient for emergency period XX hours at full rated output (must be specified).
- 2- Each comprises of 24 cells X 2V/CELL.

3. Guaranteed life of batteries:

Guaranteed life is not less than 15 years with a capacity drop down to not less than 80% under normal expected service.

4. Environment:

The batteries shall be designed and suitable for continuous operation at:

- a) Temperature : 0 - 45°C
- b) Humidity : Up to 95
- c) Altitude : 2500 M above sea level.

الرقم : _____
التاريخ : _____

TECHNICAL SPECIFICATION FOR BATTERY المجموعة الأولى

No.	Description	PTC Specification	Tender Specification
1.	Name of battery & model number		
2.	Manufacture & Type		
3.	Country of origin		
4.	Date of manufacture	Should be in delivery year	
5.	Recommended battery cells	24 cell for each group	
6.	Batteries rated	xxxx AH constant power	
7.	Nominal voltage/cell	2V	
8.	Floating voltage	2.2V/CELL	
9.	Minimum battery test voltage	1.9V/CELL	
10.	Battery low voltage warning alarm	46.5V	
11.	Battery low voltage cutoff	1.8/CELL	
12.	Battery high voltage alarm	56V and 2.3V/CELL	
13.	Battery high voltage cutoff charge	57V	
14.	Current @ end of discharge End of discharge voltage A		
15.	Battery ripple current A		
16.	Battery frequency deep discharge		
17.	Storage voltage for each set	52 volt	
18.	Number of plates Negative and Positive		
19.	Type of plates Negative and Positive (material made of)		
20.	Internal resistance (mΩ)		
21.	Spanalear type		
22.	Type of electrolyte		
23.	Max. charge current		
24.	Max. discharge current		
25.	Recharge voltage		
26.	Equalization voltage		
27.	Min. discharge voltage		
28.	Self discharge		
29.	Efficiency @ 10h (AH and WAH)		
Environment of Batteries			
30.	Ambient temperature	0 to 45°C	
31.	Remaining battery life (MIN)	15 years	

الرقم :
التارفة :

المجموطة الأولى TECHNICAL SPECIFICATION FOR BATTERY

No.	Description	PTC Specification	Tender Specification
32.	Humidity	Up to 95%	
33.	MTBF		
34.	Optimum battery temperature °C		
35.	Altitude	2500M A.S.L.	
36.	Dimensions (H x W x L) mm		
37.	Cell weight KG		
8.	Batteries run time at full load	...xxx..hours	

المعايير الفنية الأساسية للبطاريات (الجموعه الأولى)

High Level Requirements

1 The batteries must be European technical, heavy duty and high quality.

1) lead acid, tubular plate and deep discharge cycles .

2) Single cell with voltage (2V).

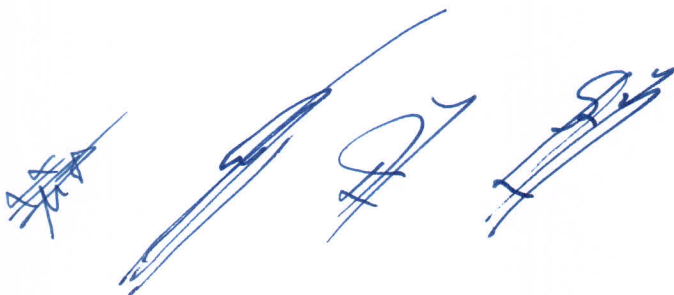
3) Capacity $\times\times\times$ AH@C10

4) The life of the batteries must be designed as a deep of discharge (DOD)@80% of capacity is 1500 cycles (minimum).

5) The manufacture company shall provide warranty of quality for expected life (15 Years minimum).

6) Operation temperature (5-45) °C (minimum).

7) The manufacture company must be give an answer table for every item of the P.T.C specifications (item by item) and provide complete technical in formations.



General Technical Specification
For
Stationary Sealed- in Type Batteries
For
DC Power Storage of Photovoltaic Solar systems (600AH/2VDC @ C10)

المجموعة الثانية

February 2012

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1. General:-

The specification defines the technical requirements for stationary lead-acid batteries of the sealed-in type required as d.c. power storage for photovoltaic solar cell system.

2. Application:-

Under normal conditions of working, photovoltaic solar cell system supplies the D.C. power to the telecommunication equipments. The nominal supply voltage is 48 volts. One or two sets of batteries are connected across the solar system output terminals to provide D.C. power without break when the sun fails. In this type of floating arrangement, the battery may supply part of the peak current to the load for short periods. The batteries should be designed for cycling applications.

3. Environment:-

The battery sets are required at sites situated at different altitudes from sea level up to 3000 metres over sea level. The ambient temperature may go up to 50°C and the relative humidity up to 98%.

The tenderer should take into account any derating involved and the apparent capacity required in quoting for the nominal capacities at the different ambient conditions.

4. Tenderer shall give an answer table of every item of the specification (item by item).

5. Batteries must be of European standard.

6. Operational Requirements:-

6.1 The nominal terminal voltage under floating conditions is 2.2 volts per cell increasing to 2.3 v/c. Under deep discharge, the lowest discharge voltage is 1.8 volts per cell.

In actual operation, the discharge rate varies and may go up to 48 hour rate.

The battery shall be suitable for prolonged float operation under varying conditions of charge and discharge.

6.2 Each battery cell must be (600AH/2VDC. at C.10)

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7. Maintenance Requirements:-

- 7.1 The battery should be single cell type (each battery is only one cell) multiceller in one battery (container) is not accepted.
- 7.2 The self-discharge rate of the battery shall be minimum and extremely low.
- 7.3 The cells shall be of the sealed-in type requiring no attention during long periods of operation. In single set battery systems there is no possibility of disconnecting the battery from the load during the life of this battery.
- 7.4 The batteries shall be suitable for the following applications:-
- For steady float for long periods of time. Battery gets discharge and charge on occasional power failures.
 - For frequent deep discharge and charges under unreliable power conditions.
- The tenderer shall give expected life of battery in the above cases.
- 7.5 The tenderer shall furnish the type and frequency of maintenance required.

8. Container:-

The containers shall be light compact strong and explosion resistant. The terminals and the inter-connecting links shall be of lead plated copper, Each container has only one cell.

9. Mounting Arrangements:-

The batteries shall not require any special arrangements for mounting. Normal the cells are mounted in shelves and racks. The requires shelves and racks shall be provided.

10. Warranty:-

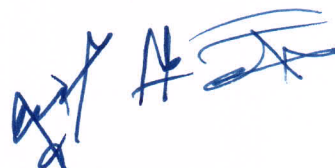
The supplies shall warrant that the batteries are free of manufacturing and design defects. If any failure due to manufacturing/design defect is noticed within 18 months from the date of receipt at site, the same shall be replaced by the supplier at this cost.

The batteries shall also carry a warranty as to the delivery of 80% of the rated capacity of power for at least 5 years after the date of receipt at site when operated in accordance with the instruction of the supplier.

11. Information to be furnished by the tenderer:-

The tenderer shall give the following information along with his tender:-

- 1) Dimensions (length, width and height)
- 2) Weight (sealed and fully charged)
- 3) Type and volume electrolyte, composition, number and thickness of plates
- 4) Type of container, cover and separator
- 5) Internal pressure which the container can stand
- 6) Charge, discharge and floating characteristics



- 7) D.C. internal resistance of the battery
- 8) Maximum discharge current and recharge voltage
- 9) Temperature effects on performance and capacity
- 10) Average useful life in years and in terms of cyclical operation/recharges and floating condition.
- 11) Efficiency of battery (Amp hrs and Watt hrs)
- 12) Details of mounting arrangements
- 13) Self-discharge characteristics
- 14) Storage conditions
- 15) Shelf-life in storage after receipt in P.T.C. stores and period of recharge when stored for long time
- 16) The tables attached are required to be filled in

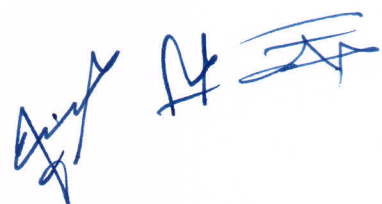
12. Item to be supplied with the battery:-

12.1 The battery should be supplied with inter connections and all necessary accessories.

13. Tenderer shall provide complete set of:


- 1- Technical document.
- 2- Installation document and drawings.
- 3- Factory test sheet.
- 4- Country origin certificate.

* * * END OF SPECIFICATION * * *




المعاير الفنية الأساسية للبطاريات Stationary Sealed- In- Type Charge Controllers

المجموعة الثانية (فبراير 2012)

- 1- Tenderer shall give an answer table of every item of the specification (item by item).
- 2- Operational Requirements:-
 - 2.1 The nominal terminal voltage under floating conditions is 2.2 volts per cell increasing to 2.3 v/c. Under deep discharge, the lowest discharge voltage is 1.8 volts per cell.
In actual operation, the discharge rate varies and may go up to 48 hour rate. The battery shall be suitable for prolonged float operation under varying conditions of charge and discharge.
 - 2.2 Each battery cell must be (600AH/2VDC. at C.100) 
- 3- The battery should be single cell type (each battery is only one cell) multiceller in one battery (container) is not accepted.
- 4- The cells shall be of the sealed-in type requiring no attention during long periods of operation. In single set battery systems there is no possibility of disconnecting the battery from the load during the life of this battery.
- 5- The batteries shall be suitable for the following applications:-
 - For steady float for long periods of time. Battery gets discharge and charge on occasional power failures.
 - For frequent deep discharge and charges under unreliable power conditions.The tenderer shall give expected life of battery in the above cases.
- 6- Container:-

The containers shall be light compact strong and explosion resistant. The terminals and the inter-connecting links shall be of lead plated copper, Each container has only one cell.



7- Information to be furnished by the tenderer:-

The tenderer shall give the following information along with his tender:-

- 1) Dimensions (length, width and height)
- 2) Weight (sealed and fully charged)
- 3) Type and volume electrolyte, composition, number and thickness of plates
- 4) Type of container, cover and separator
- 5) Internal pressure which the container can stand
- 6) Charge, discharge and floating characteristics
- 7) D.C. internal resistance of the battery
- 8) Maximum discharge current and recharge voltage
- 9) Temperature effects on performance and capacity
- 10) Average useful life in years and in terms of cyclical operation/recharges and floating condition.
- 11) Efficiency of battery (Amp hrs and Watt hrs)
- 12) Details of mounting arrangements
- 13) Self-discharge characteristics
- 14) Storage conditions
- 15) Shelf-life in storage after receipt in P.T.C. stores and period of recharge when stored for long time
- 16) The tables attached are required to be filled in.
- 17) 10% spare batteries out of the total groups shall be quoted.



Capability of returning a deep discharged battery to its initial state in a recharge operation

Discharge rate %	Recharge voltage	Recharge current C/10	Recharge time hours	Final S.G	Cell temp deg .c	Percent recharge %
80	2.50	0.- C/10				
70	2.40	0.- C/10				
50	2.35	0.- C/10				
30	2.30	0.- C/10				
10	2.25	0.- C/10				

Ventend cells and sealed and type cells for a daily depth of discharge rate as shown below are operated in accordance with the manufactures instructions. Fill the require information.

Discharge rate %	Recharge time hours	Cell life in cycles
0%	0 hour	
10%	1 hour	
10%	3 hours	
10%	5 hours	
30%	1 hour	
30%	3 hours	
30%	5 hours	
80%	1 hour	
80%	2 hours	

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جدول الكميات لاحتياجات البطاريات

السعر الإجمالي بالدولار	سعر المجموعة (24cells) بالدولار	العدد	السعة (القدرة Ah)
		40 battery set Set - (24 cells)	المجموعة الأولى 800Ah@C10 maintenance free (جافة)
		49 battery set Set - (24 cells)	المجموعة الثانية 600Ah@C100 maintenance free (جافة) DC power storage of photovoltaic solar systems
		89 sets - 2136 cells	الإجمالي

ملاحظات:

- ١- يجب أن يتضمن العرض توفير جميع الملحقات والمواد اللازمة للتركيب ووسائل السلامة كالقفازات وجهاز قياس الفولتية وعلب شحم لتشحيم الأقطاب... الخ .
- ٢- يجب أن يتم توفير ركات عمودية ثلاثية الطبقات لكل مجموعة لتركب عليها البطاريات.
- ٣- كل مجموعة (٢٤) خلية تحزم مع جميع ملحقاتها بشكل مستقل.
- ٤- يجب أن يكون تاريخ الصنع ٢٠١٢م ومحفوراً على كل بطارية.
- ٥- توفير كتيبات التركيب والتشغيل وجداول الصيانة مع كل مجموعة.
- ٦- توفير شهادات الفحص الصناعي.