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| C:\Users\COMPAQ\AppData\Local\Microsoft\Windows\Temporary Internet Files\Low\Content.IE5\D2JVGCH3\aigetoa[2].jpg | **ALL INDIA GRADUATE ENGINEERS & TELECOM OFFICERS ASSOCIATION**  **TAMILNADU TELECOM CIRCLE**  **(An Association of DR Graduate Engineers/Account Officers of BSNL)**  **Website:** [**www.aigetoachq.org**](http://www.aigetoachq.org)  **Email: aigetoatncircle@gmail.com** |

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| **Circle President**  H. Victor Samson  9443100770 |  |  | **Circle Secretary**  G. Saravana Kumar  9443200450 |

Ref No: AIGETOATN/Circle Office/4 dated: 19th March 2014

To

The General Manager (NWP-CFA),

Bharat Sanchar Nigam Limited,

Chennai – 600 008.

**Sub:- Specification for VRLA Battery**

Ref:- No.MM/Reqt/Decn-ltems/2014-2015/01 dated at Chennai-8, the 28-02-2014

Sir,

As per the reference cited above, it is requested to project the requirement of Decentralised items such as Battery/Power Plant for the year 2014-15 from your office. It is also requested that the technical specification of the items to be procured may also be indicated please for the Decentralised items. In this regard, we propose the following TEC Specification regarding Tubular VRLA batteries based on GEL technology **TEC GR No. GR/BAT-03/01 MAR 2006 with corrigendum dtd. 20.07.2007** has to be considered for forthcoming Tender for BTS Sites.

So far BSNL had floated the Tender only for AGM VRLA technology batteries which are designed for 27˚C which are giving up life in short time.

Batteries are very temperature sensitive. The kinetics of these batteries is temperature dependent. The chemical reaction becomes faster and faster with rise in temperature above the design temperature 27˚C and give rise to a chain reaction. High temperature causes loss of life because every 10° C rise in operating temperature, the life is cut to half. High temperature also causes gassing, which means dry out and thermal runaway in VRLA cells. It is unable to maintain the BTS Shelter temperature at 27˚C due to air conditioner failure during power failure which leads to failure of Battery sets in short period.

As power failure in rural areas is frequent and of long durations, batteries are subjected to deep discharge and do not get sufficient time for recharging. This leads to operation of batteries in Partial State of Charge condition (PSOC) leading to sulphation and results in a permanent loss of capacity which effects its performance and life. VRLA Gel batteries, resist this type of failure mode exceptionally well. Hence Telecom networks operating in power starved rural sites need VRLA Gel batteries, with Deep cycling capabilities, which can be operated under partial state of charge (PSOC) and have the ability to be recharged quickly.

Over discharge in VRLA (AGM) batteries lead to a point from where it is impossible to recharge. Gel battery contains more electrolyte as compared to VRLA (AGM). Hence the battery always has some ions left to conduct charge current resulting in excellent recovery from deep discharge.

TEC has also issued a GR for Tubular VRLA batteries based on GEL technology (No. GR/BAT-03/01 MAR 2006) in March 2006, which has been introduced, in BSNL /MTNL on experimental basis. Tubular VRLA batteries based on GEL technology has been chosen because it can work with the existing SMPS Power Plant in the field, irrespective of the version of the existing Power Plant. It is also claimed that it has all the advantages of AGM VRLA technology, along with the following additional advantages:

1. Better thermal management, because of more electrolyte.
2. Better performance at high temperature as the life loss for every 10° C is 30% against 50% for AGM batteries.
3. Cyclic life is 20% to 30% higher than AGM batteries (1400 cycles in AGM and 2100 cycles in Tubular GEL).
4. Self discharge is lower than AGM batteries and can be stored up to one year against six months as in AGM.
5. Same charging techniques as for AGM but slightly low float and charge voltage.
6. Slow rate of discharge performance is excellent, suits rural application.

In last year also BSNL Tamilnadu Circle floated Tender for Supply of VRLA Battery through e-tendering Tender No.: TENDER/DECN ITEMS/2012-13/4 Dated at Chennai The 22-01-2013 had **Specification: TEC No. : GR/BAT-01/03 MAR 2004 With Latest Amendments** which was meant for AGM VRLA batteries.

MTNL invited Tender Notice for their 2G-3G Expansion project vide Tender Enquiry No. MTNL/20-80(401)/2011-MM/2G-3G Expansion Dated 01.03.2012 stated that MF VRLA/Tubular (Gel Technology) battery sets is to be provided as per **TEC Specification: TEC GR/BAT-03/01 MAR 2006 with amendments thereto**. Also as per List of Approved Vendors for Different Products as on 06/03/2014 published in their website by BSNL Telecom Quality Assurance Circle, Bangalore for Tubular VRLA Batteries (Gel Technology) is stated with **TEC Specification: TEC GR No. GR/BAT-03/01 MAR 2006 with corrigendum dtd. 20.07.2007.**

It is, therefore, requested to consider the TEC Specification regarding Tubular VRLA batteries based on GEL technology **TEC GR No. GR/BAT-03/01 MAR 2006 with corrigendum dtd 20.07.2007** for BTS Battery sets so as to minimize the BTS Interruption rate.

Thanking You,

Yours sincerely,

**Sd/..**

**Circle Secretary**

**AIGETOA TN Circle**

Copy to:

1. The Chief General Manager, Tamilnadu Circle, BSNL
2. CHQ President/General Secretary/Joint Secretary (South) for information please.

Enclosure:

Evaluation of Different Battery Technologies used in Indian Telecom Network published by TEC, New Delhi.