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**Government of India
Ministry of Railways
(Railway Board)**

No. 2002/Tele/WE/1/WT

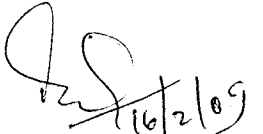
New Delhi, dated 13.02.2009.

**General Managers (S&T),
All Indian Railways**

Sub: - Batteries for VHF based Walkie-Talkie sets.

**Ref:- 1. Board's letter of even no. dt. 21.01.2009.
2. RDSO's letter No. STT/WL/VHF/209/Vol.IV dt.13.02.2009.**

Vide Board's letter referred to above, RDSO's recommendations regarding batteries for VHF based walkie-talkie sets, have been circulated with due approval of Board (ML). RDSO vide its letter referred to above, have re-submitted its recommendations incorporating additional recommendations regarding the performance criteria and use of Li-Ion batteries chargers. This would replace the earlier recommendations circulated. Copy of the same is enclosed for your guidance and necessary action.


(Sanjay Dungrakoti)
Director/Tele

DA: One (3 Pages)

Copy to:-

ED/Tele RDSO - for information in ref. to our above referred letter.
(no enclosure)

STT-1
DK
17.02.09

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सत्यमेव जयते

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98
AN ISO 9001
CERTIFIED
ORGANISATION

No.STT/WL/VHF/209/Vol.IV

Dated: 13.02.2009

Additional Member/Telecom,
Railway Board, Rail Bhawan,
New Delhi

Sub: Batteries for VHF based Walkie-Talkie Sets.

Ref: This office letter of even number, dated 15.10.2008. | S.N. 96

Please refer above mentioned letter under which recommendations for walkie-talkie batteries were communicated. The issue has been re-examined and additional recommendations incorporating the performance criteria and use of Li-Ion Battery Chargers have been incorporated and the complete recommendations are given as under:

T.N.
"VHF Walkie-Talkie Sets for Driver-Guard Communication are procured through DGS&D Rate Contract. RDSO is verifying MIL Standard compliance for these Walkie-Talkie Sets for Indian Railways application.


Batteries for these Walkie-Talkie Sets are also procured through DGS&D Rate Contract. Although, all the manufacturers specify the duty cycle of Sets as 5:5:90, but in actual condition for Railway Operation, the duty cycle may be as high as 10:10:80. Besides, since Driver & Guard changes their duty after every 8 hours and in long hour case every 10 hours, the battery should be so chosen so that it can last for at least 10 hours running time with 10:10:80 Duty Cycle. Minimum mAH of Battery Capacity required for RDSO verified MIL Std. Compliant Walkie-Talkie Sets based upon their Drain Current and Duty Cycle at 10:10:80 is enclosed in Annexure-I. In view of this minimum mAH of Battery Capacity required for 10 hours use with Duty Cycle of 10:10:80, it is recommended that:

- (1) While procuring new Walkie-Talkie Sets for Driver-Guard Communication, battery shall be procured with such a capacity to ensure 10 Hours use with Duty Cycle of 10:10:80. Besides it is also recommended that during such procurement preference shall be made to procure Highest Capacity of batteries available on DGS&D Rate Contract from the same Walkie-Talkie Sets Manufacturer.
- (2) While procuring Replacement Batteries for old sets or spare battery with new set, higher capacity batteries available on DGS&D Rate Contract from set manufacturer & other manufacturers shall be procured, considering that 10 hour Driver Guard Communication in 10:10:80 Duty Cycle is ensured. However, since the higher capacity batteries in 2000 mAH, 2100 mAH, 2200 mAH and 2300 mAH are now available in DGS&D Rate Contract, Railways may procure these higher capacity batteries for use with Guard-Driver Communication.

- (3) As Driver-Guard communication is sensitive, it is required that batteries having proven performance should only be procured. As such, it is recommended that for this application, Railways should procure batteries which have been deployed in sufficient quantities for at least 2 years on Railways and their performance is found to be satisfactory.
- (4) Here is also pertinent to mention that Battery with higher mAH are with lower Price/mAH, as such financially it makes insignificant difference for going towards further higher capacity of battery while ensuring 10 hour Driver-Guard Communication in even higher Duty Cycle circumstances.
- (5) Ni-MH and Li-Ion batteries are now available in the Rate Contract and Railways may mainly use Ni-MH batteries and also for trial may procure Li-Ion batteries (not more than 5% of its requirement). The report regarding the performance of Li-Ion batteries may be submitted to RDSO for further standardization. Railways should also procure chargers for Li-Ion batteries separately as the chargers for Ni-MH batteries are not suitable for such batteries".

It is, therefore, requested that above mentioned recommendations may be approved and circulated to all Railways for their guidance.

Enc: Annexure-I .


13.02.77
(M. Alam)
Executive Director/Telecom

ANNEXURE-I

VHF based Walkie-Talkie Sets	Drain Current in mA			For 10 Hours required in Cycle 10:10:80 Duty
	Tx	Rx	Idle	
MOTOROLA				
GP 328	1250	340	52	2006
GP338	1790	110	55	2340
VETEX STANDARD				
VX160E	1313	128	28	1665
KENWOOD				
TK2107	1147	90	54	1669
TK2160	1341	180	65	2041
TK2170	1420	188	65	2128
TK2207	1410	240	69	2202
HYT				
TC 265	1401	101	51	1910
TC270	1402	100	51	1910
ICOM				
IF-14	1150	130	40	1600
IC F-3GT	1130	140	30	1510