

भारत सरकार Government of India
रेल मंत्रालय Ministry of Railways
रेलवे बोर्ड Railway Board

(E-Office: 3356076)

No.2021 /M(C)/142/4(15)

New Delhi, Dated 25.07.2024

Sub: Minutes of Meeting held on Pressurised Flushing System/ Electro-Pneumatic Pressurised Flushing System fitted in coaches

Ref: (i) Railway Board letter no. 2021 /M(C)/142/4(15) dated 03.07.24 & 10.07.24
(ii) Railway Board's letter no. 2007/M(C)/137/16 dated 27.05.2024

- I. Railways are facing a number of complaints related to cleanliness in toilets, and a significant number of complaints in this head are on account of poor working of Electro-Pneumatic Pressurized Flushing Systems (EP-PFS)/Pressurized Flushing systems (PFS).
- II. The issue was discussed in detail during a review held at Board on 15.07.2024, and presentations were made by CWM/AIIW, CWM/LLH, Dy.CME/HRT and CDE/MCF on the subject.

The list of attendees present in the meeting is as under:

From Railway Board	
1. Sh. Amit Kumar Agarwal AM/ME	
2. Sh. Ravi Jain EDME/Chg.	
3. Sh. Aishvarya Sachan JDME/Chg.	
4. Sh. Pranjal Mishra JDME/Chg.-II	
From MCF	
1. Sh. Vivek Khare PCME/MCF	
2. Sh. D. K. Singh, CDE/MCF	
3. Sh. Ravindra Chauhan, Dy. CME/D/MCF	
From Railways	
1. Sh. Vikas Anand, CWM/AIIW/NWR	
2. Sh. Yatish Kumar, CWM/LLHW/ER	
3. Sh. Kunal Kumar, Dy. CME/HRT/ECR	


- III. The issues and action plans discussed during the meeting are detailed below:

S. No.	Discussion Item	Action By
1	The data presented indicated that though there are rampant quality issues in PFS/EP-PFS, and warranty for the systems was for six years after fitment (in line with MCF Spec. MMDTS 19027 Rev. 01), the warranty obligations are not being honored by PUs. The issue has already been highlighted by Board vide letter under reference (ii) above. Data from Harnaut Workshop also corroborated the issue - 23 out of 27 warranty complaints raised by HRTW were not honoured.	PCMEs/ MCF, ICF and RCF
2	As per MCF Spec. MMDTS 19027 Rev. 01, life cycle	PCME/MCF

	testing of prototype has to be done for 10 Lakh cycles for approval. MCF to set up a test system and conduct testing of all the suppliers (whether supplied through any of the PU or through ZR)	
3	All the firms which have supplied systems as per MMDTS 19027 Rev. 01 to be audited against the requirements mentioned in the specification. The Audit should be coordinated by MCF, and resources can be taken from RDSO and QA, if required. This exercise should be started immediately and completed in a month.	DG/RDSO PCME/MCF
4	<p>Although MCF is the nodal authority for the specification, it appeared that MCF is largely insulated from the problems being faced in field. This is one of the major reasons of poor warranty compliance and poor product performance. Reliability issues in the following major sub-assemblies were highlighted by Ajmer, Liluah and Harnaut Workshops:</p> <ul style="list-style-type: none"> i. Water pressurizer unit: Piston jamming and scaling, piston getting corroded, damaged sealing kits ii. Jammed water locking units iii. Defective Solenoid Valves iv. Rusted/leaky NRVs v. Flush switch getting defective, push button connector loose/broken vi. In addition, non-interchangeability of major components was highlighted <p>An in-depth analysis of the above issues from design and quality points of view was missing in the presentation made by MCF. The teams handling warranty and design at MCF should be deputed to field units to study the issues being faced.</p>	PCME/MCF
5	<p>It was discussed that the EP-PFS which are fitted in the under-gear are prone to damage. Also, accessing the pressurizer units in case of any malfunction is difficult. The systems should be shifted overhead, behind the space provided in the CDTs panel door.</p> <p>Liluah and Ajmer Workshops to conduct a trial exercise, and submit a scheme for implementation in LHB and ICF Coaches respectively, for implementation by other Workshops undertaking POH. The scheme for implementation may be submitted to Board by 10.08.2024</p>	PCMEs/ All PUs and ZRs. PCME/ER and NWR
6	<p>Improvements in the design were suggested by all three Workshops. The following may be implemented in the specification:</p> <ul style="list-style-type: none"> i. The supplier may be made responsible for running the EP-PFS/PFS system till the first 	PCME/MCF

	<p>SS2 Schedule. The supplier should not only be responsible for meeting component warranty claims, but also carrying out any overhaul, if needed.</p> <p>ii. The specification should be such that no/minor maintenance is needed before SS1 (e.g. minor cleaning of breather holes may be included, but activities involving opening of major sub-assemblies should be avoided to the extent possible)</p> <p>iii. The consensus in the meeting was to introduce Stainless Steel cylinder and piston in the both the water and air circuits: same may be explored by MCF</p> <p>iv. As already done for the pressurizer unit, the size and design of the control box also needs to be standardized in the new specification, so as to enable inter-changeability. The components in the control box also need to be specified.</p> <p>v. The passenger interface should not vary much when using systems of different makes, i.e. the design of the push button/switches should be standardized to the extent possible.</p>	
7	It was noted that while MCF is the owner of the specification for PFS/EP-PFS, MCF is lagging behind in adoption of MMDTS 19027 Rev. 03, and ironically, other PUs have started using the revised specification already. Firm and affirmative action needs to be taken by MCF in this regard.	PCME/MCF
8	A piston-less design was presented by MCF. Considering that majority of the issues reported were pertaining to the pressurizer unit, a trial on limited quantity of piston-less design may be explored by MCF and its performance shared.	PCME/MCF

The above is issued with the approval of competent authority.


 26/07/24.
 (प्रांजल मिश्रा)
 संयुक्त निदेशक/ यांत्रिक इंजी. कोचिंग-II
 रेलवे बोर्ड

Copy to:

- (i) GM/MCF, RCF & ICF - For kind information please.
- (ii) DG/RDSO – For kind information please.
- (iii) PED/RS/RDSO, PCME/ER & NWR - For kind information and necessary action please
- (iv) PCME/ MCF, RCF & ICF - For kind information and necessary action please.
- (v) CWM/LLH & AIW - For kind information and necessary action please.

