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भारत सरकार — रेल मंत्रालय  
अनुसंधान अभिकल्प और मानक संगठन  
लखनऊ — 226011  
Government of India - Ministry of Railways  
Research, Designs & Standards Organization,  
LUCKNOW — 226011

No. EL/3.2.19/3-Phase

Date 22.09.2017

**Chief Electrical Engineer,**

1. Central Railway, Mumbai CST-400 001.
2. Northern Railway, Baroda House, New Delhi-110001.
3. North Central Railway, Subedarganj, Allahabad- 211001
4. North Eastern Railway, Gorakhpur-273 001
5. Eastern Railway, Fairlie Place, Kolkata -700 001.
6. East Central Railway, Hazipur-844101.
7. East Coast Railway, Chandrashekharapur, Bhubaneswar-751016.
8. Southern Railway, Park Town, Chennai-600 003.
9. South Central Railway, Secunderabad-500 371.
10. South Eastern Railway, Garden Reach, Kolkata -700 043.
11. South East Central Railway, Bilaspur-495004
12. Western Railway, Churchgate, Mumbai-400 020.
13. West Central Railway, Jabalpur-482001.
14. Chittaranjan Locomotive Works, Chittaranjan-713331 (WB)

**Sub: Minutes of Meeting to discuss reliability related issues of E-70 Brake system  
of M/S. FTRTL held at RDSO Lucknow, on date 18.08.2017**

Zonal Railways reported various reliability issues of brake system of 3-phase electric locomotives. A meeting was held to review the reliability issues of E-70 and chalk out action plan to eliminate such failures. In this regard please find enclosed minutes of meeting.

*22/9/2017*  
(Aseem Kumar)  
For Director General/Elect

Encl: MOM (02 pages)

Copy to:

- Secretary (Electrical), Railway Board, Rail Bhawan, New Delhi-110001  
(Kind attn.: Shri A. K. Goswami, DEE/RS/RB) for kind information please.
- M/s. Faiveley Transport Rail Technologies India Limited, P.B. No. 69, Harita,  
HOSUR, Tamil Nadu- 635 109

*22/9/2017*  
(Aseem Kumar)  
For Director General/Elect

Encl: MOM (02 pages)

*o/c*



**Minutes of Meeting to discuss reliability related issues of E-70 Brake system of  
M/S. FTRTL held at RDSO Lucknow, on date 18.08.2017**

S.N	Name (Shri)	Designation	S.N	Name (Shri)	Designation
<b>RDSO</b>			<b>M/s FTRTL</b>		
01	Aseem Kumar	DSE	01	V. Chandrasekar	Vice President Engineering
03	V K Gupta	JE/Elect	02	S kali	Asst. Manager. Sales
04	Mahendra Pal	JE/Elect			

**The discussion and decisions are appended below:**

SN	Reliability issues	Discussion held at RDSO
1	<b>Failures of Pressure regulating valves (PRV)</b>	
1.1	Large number of cases of air leakage from Pressure regulating valves (PRV) has been reported by sheds due to leakage of extended portion of valve.	<ol style="list-style-type: none"> <li>1. To address this issue high flow modified Pressure Reducing Valve with metallic body was adopted vide letter No. EL/3.2.19/3-Phase dated 14.06.2013</li> <li>2. FTRTL appraised that they have been supplying FTRTL make high flow limiting valve in place of SMC make PRV since March'2015.</li> <li>3. For further quantities firm requested that ZRs may procure.</li> <li>4. ZRs are requested to provide status of replacement of modified PRV.</li> </ol>
2.0	<b>Gauges failures</b>	
2.1	ZRs have reported cases of breakage of AFI gauge glass.	<ol style="list-style-type: none"> <li>1. Firm is supplying gauges of increased thickness of glass (12 mm against earlier 6 mm) make M/s Midland.</li> <li>2. ZRs are requested to provide status of such cases.</li> </ol>
3.0	<b>Failure of FDI (SA9) and D2 relay valve.</b>	
3.1	Railway reported failures of SA9/D2 Relay valve causing having air leakage.	<ol style="list-style-type: none"> <li>1. FTRTL has already modified the valve seat design and implemented since March'2015.</li> <li>2. ZRs are requested to provide status of failures due to defective valves.</li> </ol>
4.0	<b>Failures of limiting valve</b>	
4.1	ZRs reported the failures of air leakage from limiting valve of auto brake and blending unit due to pin breakage.	<ol style="list-style-type: none"> <li>1. FTRTL has improved the pressing process for rubber and same has been already implemented.</li> <li>2. ZRs are requested to provide status of failure on this account.</li> </ol>
5.0	<b>Failure of Electronic card.</b>	
5.1	ZRs reported the failures of Electronic card in E-70 on account of VCD unit not working. Resistors of control card and Vigilance card were found burnt.	<ol style="list-style-type: none"> <li>1. FTRTL has replaced 5V LM140 industrial grade regulator in place of L7085 commercial grade regulator in 606 nos. E-70 fitted locos. As per the firm cases of card burning are due to use of higher rating MCB in HSB panel</li> <li>2. ZRs are requested to ensure use of MCB with 6A rating in HSB panel.</li> <li>3. ZRs are requested to provide status of this kind of failures.</li> </ol>

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22/9/17



6.0	<b>Leakage from pneumatic panel body joints.(New item)</b>	
6.1	ELS/LGD & ELS/ TKD reported cases of air leakage from pneumatic panel body joints after service life about 7 to 8 years, however overhauling of panels become due after 9 years of service.	<ol style="list-style-type: none"> <li>1. As per firm's reply vide Letter no. FTIL/CCN/16-17 dated 07.03.17, service life reported is not correct. And they mentioned that leakage occurred due to poor air quality. Firm is intended to take over the overhauling of such panels.</li> <li>2. The reason of leakage does not seem to be appropriate. Hence firm is requested to submit the root cause analysis by investigation the panels which they have taken for overhauling from ELS/LGD &amp; ELS/TKD.</li> <li>3. ZRs are requested to provide status of this kind of problem.</li> </ol>

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22/9/17