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No. EL/3.2.176/1

Date: 11/12/2019

**Principal Chief Electrical Engineer,**

1. East Central Railway, Hazipur, Bihar-844 101
2. Chittaranjan Locomotive Works, Chittaranjan-713 331, Dist. Burdwan, W.B

**Sub:** Minutes of Meeting held at RDSO on 03.12.2019 for poor reliability of Crew Fans of M/s Ranjan make in 3-phase locomotives

**Ref:** (i) Agenda of 39<sup>th</sup> MSG (Electric Loco) meeting at Nagpur, CR on 14<sup>th</sup> & 15<sup>th</sup> Oct'2019: Part III- Items not included for discussion in Agenda.  
(ii) Railway Board letter no. 2019/Elect (TRS)/138/5, dated 04.10.2019

Reference above, find enclosed herewith the copy of subject Minutes of Meeting for your information & further necessary action, please.

(Jitendra Yadav)

Encls: As above

for Director General Std. /Electrical.

**Copy to:**

1. **Secretary (Traction), Railway Board**, Rail Bhawan, New Delhi-110 001  
(Kind Attn.: Shri Kishore Vaibhav, DEE/RS/RB): for kind information please
2. **G.T.R. Company (Private) Ltd.** G-16 37, Dum Dum Road, Kolkata-700074  
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7. **CG Power and Industrial Solutions Limited** (for Aux M/C) C-31 Machine III Divn, A-6/2 MIDC Area Ahmednagar-414111. Machine III Divn., A-6/2 MIDC Area, Ahmednagar-414111. Ph 0241- 2777372/4/5/6 Fax-0241-2777800

(Jitendra Yadav)

Encls: As above

for Director General Std. /Electrical.

1543

**Minutes of meeting held at RDSO on 03.12.2019 regarding failure of Auxiliary Machine of Three Phase Electric locomotive.**

**Member Present**

<b>RDSO S/Shri</b>	<b>Firm S/Shri</b>
O.P Kesari, PEDSE	1. Arijit Mitra, M/s Samal Harand of India Pvt. Ltd, Kolkata.
Emarson Tete, SSE (SE &AM)	2. Suptis Sen, M/s Samal Harand of India Pvt. Ltd, Kolkata
	3. Raja Sinha, M/s GTR company Pvt. Ltd., Kolkata.
	4. Souvir Sinha, M/s GTR company Pvt. Ltd., Kolkata
	5. Pritam Paul, M/s GTR company Pvt. Ltd., Kolkata

PEDSE welcomed all the representative of firms in the meeting. He expressed thanks to Firms representative for participating in failure meeting of Auxiliary machine of Three phase Electric Locomotive.

The summary of discussion were under,

1. PEDSE advised firms to investigate the root cause of failure of Auxiliary Machine, so that performance and reliability of the motors can be improved. This matter has been discussed during the 39<sup>th</sup> MSG meeting. It was decided to switch over to three phase supply to motors of Scavenger for Machine room blower as well as Machine room blower. The modification is under process and will be issued by RDSO shortly.
2. CLW will provide three phase supply system to Motor of Scavenger for Machine room blower and Machine room blower in one of the Three phase Locomotive on trial basis. The outcome of same will be intimated to RDSO. There after, Modification sheet will be issued by RDSO for implementation in Three phase Electric Locomotive by Zonal Railways.
3. M/s Samal Harand , Kolkata stated in meeting that there are around 60% mechanical failures and 40% Electrical Failure in their motor .

**3.1 Mechanical Failures :** The failures are primarily due to any of following reason,

- i. If motor is stored for six months or more, the grease in bearing get dried up and significantly affects the lubrication. Therefore, it is necessary to replaced the old grease by new grease before use. Zonal Railways and Production units shall look into this. Correct precaution and necessary protective measures should be taken by replacing the old grease before use in such motors stored for more than six months without use.
- ii. Special care should be followed while greasing, replacing and carrying out retro fitment of bearing, to avoid scratches on bearing seat.



4. Firms stated that they had also noted the case of over greasing which caused spillage of grease through shaft to winding which lead to failure of winding and bearings. As per firm motor bearing should be lubricated once in five year. Accordingly Schedule of greasing of various blowers are under,

S. No	Type of motor	Greasing Schedule (Running Hours)	Grease required in Cubic centimetre			
			Bearing End	End shield housing	Bearing End	End shield housing
1	SCMRB	12000 to 14000	4.5	5.5	4.5	4.0
2	SCTMB	12000 to 14000	6.0	10.0	6.0	8.0
3	MRB	12000 to 14000	11.5	11.0	11.5	8.0

5. During discussion firms proposed to use rubber sealed bearing which is suitable for this application. It will not require frequent greasing and maintenance. CLW and Zonal Railways are requested to provide rubber sealed bearing in place of existing bearing and put such auxiliary motor in service. Performance feedback should be sent to RDSO for taking decision regarding its proliferation.
6. It was pointed out by M/S GTR that failure of crew fan took place due to poor quality of lead wire supplied by local vendor few years back. To arrest the failure firm has switched over to M/s Havells make lead wire. Now quality check has also been introduced for incoming material to strengthen the standard and quality. Firm has also confirmed that failed crew fan had been replaced by firm and only 33 numbers were pending according to the data produced by firm. Years wise performance data shows the decreasing trend of failure.