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Om Prakash Kesari  
Principal Executive Director Standards Electrical

D.O.No.EL.8.5.10.1

Dt:04.06.2019

प्रिय श्री एस.एम. अग्रवाल जी,

**Sub: PCDO for the month of May, 2019.**

**1.0 HIGHLIGHTS**

**1.1 Meeting on Mechanical components of traction motor type 6FRA-6068.**

Meeting on adoption of Traction motor labyrinths of TM type 6FRA6068 as per original dimensions given by ABB to eliminate problem of gear case oil ingress into Traction Motor was conducted with Zonal Railways & CLW at RDSO on 02.05.2019. Minutes of Meeting had been issued vide letter number EL/3.2.182 dated 28.05.2019.

**1.2 Revised STR no. RDSO/2011/EL/STR/0076 Rev 01 for manufacturing and supply of computer/micro processor controlled brake system for 3 phase locomotive had been finalized and uploaded on RDSO website vide letter no. EL/3.2.19/3-Phase dated 03.05.2019.**

**1.3 STR for manufacturing of pantograph for electric locomotive no. RDSO/2008/EL/STR/0049 Rev 01 has been finalized on 03.05.2019 and uploaded on RDSO website.**

**1.4 Specification of high reach pantograph for electric locomotive no RDSO/2007/EL/SPEC/0054 Rev 03 has been finalized on 22.05.2019 and uploaded on RDSO website.**



## **2.0 RELIABILITY IMPROVEMENT**

Minutes of Meeting held at ELS/GZB with M/s. Faiveley Transport on 24.04.2019 to discuss reliability related issues of electronic cards used in E-70 brake system for 3-Phase Electric Locomotives had been issued vide letter no. EL/3.2.19/3-Phase dated 03.05.2019.

- 2.1 Indication of ADD and ORD, bypassing of ADD, resetting of ORD and control box for high reach pantograph, inside the locomotive no. 28614 of ELS/BL was provided on 16.05.2019. ELS/BL will monitor the performance and submit their expert view.

- 2.2 Performance review meeting of bearings of electric locomotives

Performance review meeting of bearings of electric locomotives including bearings of traction motors & MSU had been conducted with Bearing manufacturers, Zonal Railways, CLW & RDSO on 24.05.2019 at RDSO, Lucknow. Minutes of Meeting will be issued by 15<sup>th</sup> June 2019.

- 2.3 A meeting was conducted with representatives of VCB manufacturers and Zonal Railways at RDSO, Lucknow on 17.05.2019 on performance review of VCB and minutes of meeting issued.

- 2.4 A meeting was held at RDSO on 28.05.2019 with Firm's representatives to discuss comments received on draft revised specification of Elastic ring used in 3-phase Electric Locomotives. The minutes of meeting (MOM) for the same has been issued vide this office letter No. EL/3.1.35/12 dated 28.05.2019 to firms. During the meeting clauses of specification related to properties of materials & load deflection test of the elastic ring have been discussed and revised accordingly.

- 2.5 Vide letter no. EL/11.5.5/21 dated 03.05.19; MOM held at RDSO on 25.04.19 with BTIPL on reliability of propulsion system of 3-phase locomotives had been issued.

- 2.6 Vide letter no. EL/11.5.5/21 dated 03.05.19; MOM held at RDSO on 15.04.19 with CGIPL on reliability of propulsion system of 3-phase locomotives had been issued.

- 2.7 Vide letter no. EL/11.5.5/21 dated 02.05.19, MOM held at RDSO on 16.04.19 with MEDHA on reliability of propulsion system of 3-phase locomotives had been issued.



### **3.0 DEVELOPMENTAL ACTIVITIES**

- 3.1 The documents of on line fresh vendor registration of 2 x 130 KVA SIV, for Electric Locomotive of M/s. ABB had been downloaded and scrutinized by this office. The deficiencies as noticed had been informed to the firm for clarification vide RDSO letter no. EL/1.2.9.1/ABB dated 08.05.2019. The clarification has not yet been received.
- 3.2 Minutes of Meeting held at RDSO on 02.05.2019 regarding E-70 brake system for 3-Phase Electric Locomotives with M/s. Faiveley Transport had been issued vide letter no. EL/3.2.19/3-Phase dated 09.05.2019.
- 3.3 Online application for registration for high reach pantograph of M/s. River Engg. & Daulat Ram Engg. had been scrutinized and comments advised vide letter no. EL/2.2.1/high reach/River dated 28.05.2019 & EL/2.2.1/high reach/DRE dated 29.05.2019 respectively.
- 3.4 To explore possibility to develop four quadrant converter for WAG7 locomotives so that same converter can supply the power to traction motor during motoring mode and regenerate power during regenerative braking mode, a technical meeting with M/s Medha, BHEL, ABB, BTIPL & CG Power was conducted on 15.03.2019 at RDSO. Detailed Minutes of Meeting had been prepared and issued vide letter No. EL/3.2.19/RB/4QC dated 03.05.2019.
- 3.5 Testing of 53kW heat exchanger of M/s Apollo make to be used in IGBT based traction converter for regenerative feature in WAG-7 Locomotive. Prototype test of aforesaid heat exchanger was witness by RDSO official at M/s Apollo works Gala No. 1 to 4, Shivalay Ind. Est. No 2, Chinchpada, Gokhiware, Vasai(E), Dist. Thane 401208 on 27/05/2019.
- 3.6 Type test report of M/s Tridelta make surge arrester type SBKC 39/SH-II & SBKC 42/SM-II as Primary & Secondary surge arrester has been examined in reference with IEC-60099-4 and found generally in order and cleared as an alternate source for Primary & Secondary surge arrester for EMU.
- 3.7 Prototype testing of Spheriblocs for 3-phase Electric Locomotives as per RDSO's Specification No. RDSO/2007/EL/SPEC/0051, Rev.2 and ABB drawing Nos. IA 016-00005(Rev-3) & IA 016-00003(Rev-1) have been conducted and witnessed by RDSO officials at M/s. Prag Industries (India) Pvt. Ltd., Talkatora Industrial Estate, Lucknow-226011.



- 3.8 Design & Drawing and Bill of Material submitted by M/s Ensav Devices, Mumbai for LED based twin beam head light has been scrutinized and found satisfactory. Same provisionally approved on 30.05.2019.
- 3.9 Final speed certificate no. SD.WAG11.11 dated 17.05.19 for new WAG11 loco has been issued.

#### **4.0 PROTOTYPE TESTING/QUALITY AUDIT**

- 4.1 Type test of high reach pantograph type IR-05HR of M/s. Contransys/Baddi is under progress and same has been put on endurance test.
- 4.2 Type test of EMU pantograph type LX 2600 of M/s. Faiveley Transport is under progress and same has been put on endurance test.
- 4.3 Prototype testing of BHEL make traction motor type IM3302AZ for 3-Ph AC EMU had been carried out at the works of M/s BHEL, Bhopal from 11.03.2019 to 18.03.2019. Type test results had been examined. Prototype Clearance for further system testing and field trial & comments on design documents of BHEL make traction motor type IM3302AZ for 3-Ph AC EMU had been given vide Note No. EL/3.2.182/OTM/163/BHEL dated 10.05.2019.
- 4.4 Prototype testing of traction motors (6Nos) type 6FRA6068 of 3-Ph drive locomotives manufactured by M/s Medha had been carried out against DLW P.O No.061711001.17138656 at their Works in Hyderabad from 20.05.2019 to 30.05.2019. Type Test report is under scrutiny.
- 4.5 The type test on traction converter of On Board MEMU of M/s BHEL has been carried out during 02-05-2019 to 09-05-2019 at works of M/s BHEL/Bangalore.

#### **5.0 SPECIFICATION/STR:**

- 5.1 A meeting was held at RDSO on 17.05.2019 among suppliers and ZRs to discuss the issues related to revision of specification of VCD for conventional locomotive no. RDSO/2008/EL/SPEC/0025 Rev.'5' (March'10). The revised specification and reasoned documents mutually agreed/signed by participants had been uploaded on RDSO website vide letter no. EL/3.2.19/3-Phase dated 21.05.2019 for further comments if any from ZRs, PUs, OEMs & Rly. Board within a period of 15 days

#### **6.0 OTHER ITEMS**

- 6.1 M/s Alstom had submitted internal type test report No. NRD0000572260-Rev 1 of Traction Motor for examination. Type test report had been examined and

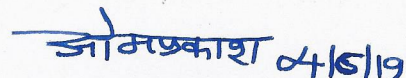


comments had been communicated vide Electrical Dte. note No. EL/3.2.182 (Madhepura) dated 16.05.2019.

- 6.2 Design document for traction motor type TME 49-35-4 for Under -slung EMU/MEMU submitted by M/s Medha vide their letter no. MAE675UE: MAE675UM:RDSO:7894:19 dated 21.02.2019 through PS & EMU Directorate note no. EL/1.3.16.6/Under-Slung MEMU/Medha dated 11.03.2019 had been examined. Comments had been given vide Electrical Dte.'s note no. EL/3.2.182/Under-slung EMU/MEMU/Medha dated 30.05.2019.
- 6.3 Design document for traction motor type TME 48-45-6 for On-Board MEMU submitted by M/s Medha vide their letter no. MAE675M:RDSO:3197:19 dated 19.03.2019 through PS & EMU Directorate note no. EL/1.3.16.6/On-Board MEMU/Medha dated 20.03.2019 had been examined. Comments had been given vide Electrical Dte.'s note no. EL/3.2.182/On-Board MEMU/Medha dated 31.05.2019.
- 6.4 RDSO and Zonal Railways proposal for New items for Inclusion in the Agenda for ESC meeting sent to Board vide letter no: EI/Esc/63<sup>rd</sup> dt 27-05-2019 for Final inclusion in Agenda.
- 7.0 **Training:** RDSO official Sri Girish Meena has participated the EMI and EMC training being provided by M/s BEL at Bangalore.

*with regards,*

Yours sincerely,

  
(Om Prakash Kesari)

**Shri S. N. Agrawal,  
Member Traction,  
Railway Board, Rail Bhavan,  
New Delhi-110 001.**

Copy for kind information to-

Additional Member (Electrical), Railway Board, Rail Bhawan, New Delhi.



# Annexure-I

## Status of un-modified motor support in WAP7 & WAG9/9H three phase locomotives

Rly	Shed	TM location	WAP7	WAG9H	Total no. of bogies	Action plan	PDC
CR	AQ	1,2	28	214	242	164 bogies have been modified by M/s Ashika commercial pvt. ltd Kolkata. 78 bogies yet to be modified.	Dec'19
		3	16	226	242	For TM 3 position not being changed.	
ECR	GMO	1&2	0	198	198	Tender awarded to M/s. Ved, Kanpur. Work started in Jan.2018. 140 bogies have been modified.	Dec'19
		3	0	49	49	All bogies have been modified	
NR	GZB	ALL	143	0	143	56 bogies modified M/s. Ved, Kanpur. M/s	Dec'19
SCR	LGD	1&2	68	164	232	All bogies modified.	
		3	84	206	290	Balance 240 bogies. Modification work to be done during POH. But not being done by POH shops.	
SCR	KZJ	3	0	102	102	9 bogies Yet to be modified	Dec.'19
SER	TATA	3	0	70	70	21 no. bogies have been modified by M/s Ved, Kanpur. For 49 bogies, retendering under progress.	Dec.'19
WCR	TKD	1, 2 &3	39	77	116	103 bogies have been modified by M/s M/s. Anup Malleables, Jharkhand. 13 bogies yet to be modified.	Oct'19
		3	8	12	20	For TM 3 position, 16 bogies modified.	June'19

Note: As informed by Sr. DEEs all modified bogies in the following sheds:

KYN, HWH, WAT, LDH, CNB, BRC, BSL, ED, BNDM, SRC, ET, NKJ, BIA, RPM



## Annexure-II

### Status of un-modified motor support in WAP7 & WAG9/9H three phase locomotives

Rly	Shed	TM location	WAP7	WAG9H	Total no. of bogies	Balance to be modified	PDC
CR	AQ	1,2	28	214	242	78	Dec'19
		3	16	226	242	242	Not being changed
ECR	GMO	1&2	0	198	198	58	Dec'19
		3	0	49	49	0	
NR	GZB	ALL	143	0	143	87	Dec'19
SCR	LGD	1&2	68	164	232	0	June'19
		3	84	206	290	240	Through POH shop
SCR	KZJ	3	0	102	102	9	Dec.' 19
SER	TATA	3	0	70	70	49	Dec.'19
WCR	TKD	1, 2 &3	39	77	116	13	Oct'19
		3	8	12	20	4	June' 19

Note: As informed by Sr. DEEs all modified bogies in the following sheds:

KYN, HWH, WAT, LDH, CNB, BRC, BSL, ED, BNDM, SRC, ET, NKJ, BIA, RPM

## Annexure- III

### Status of modified/unmodified brake lever of WAG-9/9H locomotive as per MS 455 issued on Dec'16

SN	Shed	No. of WAG-9/9H locos	Modified with TBU/PBU	Un-Modified with TBU/PBU	Converted to conventional rigging
1	BSL	16	15	01	0
2	AQ	158	46	112	0
3	KYN	69	16	53	0
4	GMO	177	0	177	0
5	WAT	140	13.5	125.5	1
6	LDH	51	22	0	29
7	CNB	42	9	3	30
8	LGD	104	27	77	0
9	KZJ +GY(D)	51	27	10	14
10	TATA	152	1	151	0
11	BIA	102	31	69	2
12	TKD	103	79	2	22
13	NKJ	29	11	14	4
14	BNDM	41	18	19	4
Total		1230	306.5	822.5	101