

ओम प्रकाश केसरी
प्रधान कार्यकारी निदेशक मानक विद्युत

Om Prakash Kesari
Principal Executive Director Stds. Electrical



भारत सरकार – रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
मानक नगर, लखनऊ – 226011
Government of India - Ministry of Railways
Research, Designs & Standards Organization,
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D.O.No.EL.8.5.10.1

Dt: 31.12.2019

Dear Shri Rajesh Tiwari ji,

Sub: PCDO for the month of December, 2019.

1.0 HIGHLIGHTS

2.0 RELIABILITY IMPROVEMENT

- 2.1 Vide RDSO letter no. EL/3.2.19/3-Phase dated 02.12.2019, MOM on reliability related issues of brake system of 3-Phase Electric Locomotives held at RDSO on 29.11.2019 have been issued and uploaded on RDSO's website.
- 2.2 Performance review meeting on bearings of 3-Ph locomotives was conducted on 12.12.2019 at ELS/BIA of South East Central Railway where general and punctuality cases of bearing failures were discussed. Meeting was attended by bearing manufacturers and Zonal Railways. Minutes of Meeting will be issued by 15th Jan 2020.
- 2.3 Minutes of Meeting held at ELS/BHILAI on 13.12.2019 on performance and warranty replacement of M/s ABB make IGBT based propulsion equipment of 3 Phase electric locomotives.
- 2.4 Minutes of Meeting held at RDSO on 17.12.2019 on performance of M/s BTIPL, M/s CGPISL & M/s MEDHA make IGBT based propulsion equipment of 3 Phase electric locomotives.

3.0 DEVELOPMENTAL ACTIVITIES

- 3.1 Vide RDSO letter No.EL/3.2.15/3-Phase dtd. 27.11.19, after receiving the satisfactory performance from ELS/TKD/WCR, CR, NR & WR for M/s. ELGI make compressor model RR20100 CG (M) in three phase electric locomotive, the clearance to implement re-modified rear fan guard in regular production of compressor is accorded.
- 3.2 Vide RDSO letter No.EL/2.2.25/ADD/Mersen dated 27.11.2019, after scrutiny of design document, drawing and BOM of M/s. Mersen India Pvt. Ltd. make Metallised Carbon Strips for pantograph with Auto dropping device is advised to develop prototype, submit internal test report, type test protocol for further processing.
- 3.3 Vide RDSO letter no. EL/3.2.19/3-Phase (CRRC) dated 27.11.2019, documents for development of brake system for 3-phase electric locomotives of M/s CRRC ZELC (INDIA) Pvt. Ltd. have been examined and deficiencies advised. The firm resubmitted the documents, which is under scrutiny.

- 3.4 Vide RDSO letter no. EL/2.2.1/High Reach/Mersen dated 29.11.2019, documents submitted for fresh registration for manufacture and supply of high reach pantograph of M/s Mersen India Pvt. Ltd. have been scrutinized and deficiencies advised to the firm for resubmitting the documents within stipulated time of one month.
- 3.5 M/s Hind Rectifiers has submitted the deficiencies compliance of Brake system for 3-Phase locomotives. The scrutiny is under process.
- 3.6 RDSO vide letter No. EL/4.2.15/EoTT dated 09.12.2019 had apprised the status of implementation of EoTT (End of Train Telemetry) system on IR to Railway Board.
- 3.7 Trial Scheme for Axle Box Bearing & Gear Case Oil has been prepared & issued to North Central Railway vide letter no. EL/3.2.108 (Lube) dated 25.11.2019.
- 3.8 Approval of alternate make components of M/s MEDHA make 3x130 KVA IGBT based auxiliary converter has been accorded.

4.0 PROTOTYPE TESTING/QUALITY AUDIT

- 4.1 RDSO official witnessed the prototype testing of M/s Laxven make Microprocessor based Electronic Speed cum Energy Monitoring System as per the RDSO specification No.ELRS/SPEC/SPM/0002 (Rev.4) at firm's premises at M/s Laxven Systems, Hyderabad works from 23.12.19 to 24.12.19. Prototype clearance has been conveyed to CLW vide letter No.EL/2.2.29/10 dated 27.12.2019.
- 4.2 RDSO official witnessed the prototype testing of M/s Medha make Microprocessor based Electronic Speed cum Energy Monitoring System as per the RDSO specification No.ELRS/SPEC/SPM/0002 (Rev.4) at M/s Medha Servo Drives Private Limited, Hyderabad-500 076 works from 20.12.19 to 22.12.19. The test reports are under scrutiny.
- 4.3 RDSO official witnessed the prototype testing of 16.5 kW Motor of M/s CGL make with M/s ELGI make compressor at firm's premises, Coimbatore from 12.12.2019 to 17.12.2019.
- 4.4 In compliance to CLW letter no. ELDD/3732 dated 20.11.2019 and decision taken during meeting at Railway Board on 26.11.2019 with Member (Traction), CLW jointly with RDSO carried out the technical audit of manufacturing process & designs of Oil Cooling Blower Unit being followed at RPMT/Ghaziabad, Saini/Ambarnath and ACCEL/Ahmadabad from 04.12.2019 to 12.12.2019. Quality report was prepared & sent to Railway Board by CLW on 20.12.2019.
- 4.5 After conducting in house prototype tests at M/s Hind Rectifier premises for 2x130 KVA SIV from 02.12.2019 to 06.12.2019, RDSO has advised the firm to submit the reports of the pending tests to be carried out by the firm in Govt. Approved lab/NABL approved lab, vide RDSO letter no. EL/1.2.9.1/Hind dated 19.12.2019.
- 4.6 Prototype test of Brake System developed by M/s Escorts was carried out at firm's premises. Observations and pending tests have been communicated to firm vide RDSO letter No.EL/3.2.19/3-Phase/Escorts dated 26.12.2019.
- 4.7 Prototype testing of 3 phase asynchronous traction motor type TME-48-45-6, serial No.ME 0360 for On-Board MEMU project manufactured by M/s Medha Traction Equipments Pvt.

Ltd, Hyderabad had been conducted at firm premises from 11.12.2019 to 18.12.2019 as per Type Test Protocol Doc. No. EMU/TYPE TEST/001 Rev. No. 06 dated 21.10.2019 and Routine Test Protocol document No. MTEPL/EMU/RTP/001 Rev. No. 04 dated 21.10.2019. Tests were witnessed by RDSO.

- 4.8 Prototype testing of Micro Processor based Control & Fault Diagnostic System (MPCS), Version 3 as per Specification No. ELRS/MPC-FDS/0001, Rev.3 of April 2013 manufactured by M/s Laxven Systems had been conducted from 25.11.2019 to 03.12.2019 and 23.10.2019 to 26.10.2019 jointly by RDSO & CLW.
- 4.9 Prototype testing of 3-Ph traction motor type 6FRA6068 manufactured by M/s WEG Industries India Pvt. Ltd., Hosur against DLW Purchase Order No. 061813021.19139521 dated 14.02.2019 was carried out jointly by the representatives of RDSO and CLW from 17.12.2019 to 23.12.2019.
- 4.10 The Oscillation trials of WAG12B locomotive at 110 km/h has been completed on 18.12.2019 in NMDA-SNL section of NR. The CRS sanction for Oscillation trials at 132kmph has been received from WCR & trials will commence from 02.01.2020.

5.0 OTHER ITEMS:

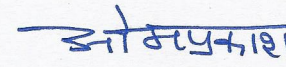
- 5.1 In line with RDSO letter no. EL/2.18, dated 08.11.2019, a meeting was convened on 03.12.2019 at RDSO with OEMs of auxiliary machines (MRB, MRS & crew fan) & Railways to discuss the failures & action plan to arrest the same. Minutes of Meeting was issued vide letter no. EL/3.2.176/2, dated 11.12.2019.
- 5.2 In line with RDSO letter no. EL/2.1.8, dated 08.11.2019, a meeting was convened on 05.12.2019 at RDSO with M/s Laxven & South Eastern Railway to discuss the failures of M/s Laxven make ESMON (speedometer) & action plan to arrest the same. Minutes of Meeting was issued vide letter no. EL/2.2.9/10, dated 09.12.2019.
- 5.3 In line with RDSO letter no. EL/2.1.8, dated 08.11.19, a meeting was convened on 05.12.2019 at RDSO Southern Railway to discuss the failures of NC4 valve & action plan to arrest the same. It was decided that RDSO will issue necessary guidelines to address the problem.
- 5.4 Training for "Advanced Management Programme" attended by Shri Aseem Kumar, DSE-Pn at ICLIF/Malaysia & INSEAD/Singapore from 02.12.2019 to 06.12.2019 & 09.12.2019 to 13.12.2019 respectively.
- 5.5 Online application for fresh registration with vendor reference ID:795 dated 17.10.2019 of M/s SKF Technologies(India) Pvt. Ltd., Ahmedabad for TM bearing, NU2236 (DE side only) for traction motor type 6FRA6068 had been examined. Firm was advised to make good the deficiencies within one month from date of issue of letter No. EL/2.2.13/SKF/NU2236 dated 10.12.2019.
- 5.6 Based on satisfactory type test results, the prototype traction motor Serial No. ME 0360, type TME-48-45-6 for On-Board MEMU Project manufactured by M/s Medha Traction Equipments Pvt. Ltd., Hyderabad for IGBT based 3 phase drive propulsion is being provisionally cleared for further system testing, fitment & field trial and conveyed to PS & EMU Dte. vide note no. EL/3.2.182/On-Board MEMU/Medha dated 27.12.2019.

- 5.7 Type test report for different type cable of M/s Thermo cables as received from PS&EMU Dte. for series rake of IGBT based 3-phase Air Conditioned AC EMU was scrutinized & comments were furnished to PS&EMU Dte. vide note no. EL/8.1.25.1/BHEL/3-PH EMU dated 02.12.2019.
- 5.8 The Data sheet/Type test reports of various types of cable to be used in IGBT based under-slung MEMU as received from PS&EMU Dte. was scrutinized & comments were furnished to PS&EMU Dte. vide note no. EL/8.1.25.1/Medha/Under slung MEMU dated 17.12.2019.
- 5.9 Data sheet/Type test reports of various types of cable to be used in IGBT based on -board MEMU as received from Director/Metro/PS&EMU Dte. was scrutinized & comments were furnished to PS&EMU Dte. vide note no. EL/8.1.25.1/On-Board MEMU/Medha dated 27.12.2019.
- 5.10 Quality Assurance Plan(QAP) for CRU-150 type of Axle Box Bearing used in WAG9/WAP7 loco of M/s SKF, Ahmedabad has been approved vide letter no. EL/3.2.108/3-phase dated 05.12.2019.
- 5.11 A meeting held at RDSO on 18.12.2019 with OEMs & Railways to discuss the reliability of elastic ring. Minutes of Meeting (MoM) was prepared & issued vide letter no. EL/3.1.35/12 dated 27.12.2019.
- 5.12 The modification sheet no. RDSO /2019/ ELECT/ MS/ 0480 (Rev.0) has been issued to avoid spurious earth fault messages due to earth fault relay.

with regards,

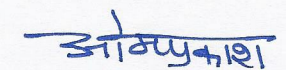
Encl: Annexure I ,II & III

Yours sincerely,

 31.12.19
(Om Prakash Kesari)

Shri RAJESH TIWARI,
Member Traction,
Railway Board, Rail Bhavan,
New Delhi - 110 001

Copy for kind information to-
Additional Member (Electrical), Railway Board, Rail Bhawan, New Delhi.

 31.12.19
(Om Prakash Kesari)
for Director General/Electrical

Annexure-I

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

Position on: 26.12.2019

Rly	Shed	TM location	WAP7	WAG9H	Total no. of bogies	Balance to be modified	PDC
CR	AQ	1,2	28	204	232	45	Mar'20
		3	30	257	287	276	
	BSL	1,2	0	0	0	0	
		3	0	8	8	8	
	KYN	1,2	0	0	0	Nil	
		3	0	96	96	96	
		3	0	49	49	0	
NR	GZB	1,2	143	0	143	64	Dec'19
		3	159	0	159	73	
SCR	LGD	1,2	68	164	232	0	NA
		3	84	206	290	240	Dec' 19
	KZJ	1,2	0	0	0	Nil	
		3,4	0	83	166	26	
SER	TATA	1,2	0	0	0	Nil	Dec'19
		3	0	49	49	49	

Note: Following sheds have already modified motor support in all locations of bogies.
HWH, WAT, LDH, CNB, BRC, ED, BNDM, SRC, ET, NKJ, BIA, RPM, TKD, GMO.

Annexure- II

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	26	14	0	12
2	AQ	158	63(22TBU/PBU+41BL)	95	8
3	KYN	69	16	53	0
4	GMO	177	0	177	0
5	WAT	141	14.5	124.5	2
6	LDH	96	22	0	74
7	CNB	79	12	0	67
8	LGD	111(7-WAG9HC)	27	76	8 (7-WAG9HC)
9	KZJ	83	31	14	38
10	TATA	152	1	151	0
11	BIA	102	31	66	5
12	TKD	103	82	0	21
13	NKJ	55	20	14	19
14	BNDM	29	15	14	0
Total		1372	347.5	785.5	245

Annexure-III

Population of High Reach Pantograph upto Dec.19

	Rev.1										Rev.2												
RLY	Shed	WAG-5	WAG-7	WAG-9	WAP-5	WAP-7	WAP-1	WAP-4	Shop Floor	Rev 1 Total	WAG-5	WAG-7	WAG-9	WAP-5	WAP-7	WAP-1	WAP-4	WCAM-3	WCAG-1	Shop Floor	Rev 2 Total	Total Shed wise (Rev1+2)	
CR	AQ	0	0	14	0	0	0	0	6	20	0	0	14	0	4	0	0	0	0	0	0	18	38
CR	KYN	0	0	1	0	0	0	0	0	1	0	0	29	0	1	0	0	0	1	1	0	32	33
CR	BSL	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	1	0	14	14
NR	LDH	0	6	0	0	0	0	0	3	9	0	1	34	0	0	0	1	0	0	0	0	36	45
NR	GZB	0	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	0	30	43	43	
NR	KIGY	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
NCR	JHS	1	17	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	18
NCR	CNB	0	12	34	0	0	0	0	10	56	0	0	0	0	0	0	0	0	0	0	0	0	56
ER	ASN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER	HWH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ECR	GMO	0	0	0	0	0	0	0	0	0	0	1	29	0	0	0	0	0	0	0	30	30	
ECR	MGS	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	3	
ECOR	ANGL	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
ECOR	VSKP	0	0	3	0	0	0	0	3	6	0	0	1	0	0	0	0	0	0	3	4	10	10
SCR	KZJ	0	0	0	0	0	0	0	0	0	0	2	34	0	0	0	0	0	0	3	39	39	
SCR	LGD	0	0	8	0	0	0	0	2	10	0	0	14	0	0	0	0	0	0	1	15	25	25
SCR	BZA	0	1	0	0	0	0	0	2	3	0	5	0	0	0	0	0	0	0	0	5	8	8
SER	BKSC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SER	BNDM	0	0	10	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
SER	SRC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
SER	TATA	0	2	6	0	0	0	0	3	11	0	0	8	0	0	0	0	0	0	0	8	19	19
SECR	BIA	0	0	8	0	2	0	0	14	24	0	0	0	0	3	0	0	0	0	0	3	27	27
SR	AJJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR	ED	0	3	0	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	4	7	7
SR	RPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WCR	ET	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
WCR	NKJ	0	0	0	0	0	0	0	0	0	0	5	4	0	0	0	0	0	0	1	10	10	10
WCR	TKD	0	0	0	0	0	0	0	2	2	0	0	41	0	7	0	0	0	0	7	55	57	57
WR	BL	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	0	0	0	51	51	51
WR	BRC	0	0	0	0	0	0	0	0	0	0	0	0	43	38	0	9	0	0	93	183	183	
IR	TOTAL	1	45	84	0	2	0	0	45	177	0	72	221	55	54	0	10	1	1	1	143	557	734