

ओम प्रकाश केसरी
प्रधान कार्यकारी निदेशक मानक विद्युत

Om Prakash Kesari
Principal Executive Director Stds. Electrical



सत्यमेव जयते

भारत सरकार – रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
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D.O.No.EL.8.5.10.1

Dt: 04.12.2019

Dear Shri Rajesh Tiwari ji,

Sub: PCDO for the month of November, 2019.

1.0 HIGHLIGHTS

- 1.1 Trial of WAP7HS competed successfully and speed certificate for operations at 160 kmph issued. Application for Railway Board's sanction was also sent to CCRS/Lucknow on 18.11.2019.

2.0 RELIABILITY IMPROVEMENT:

- 2.1 A meeting was held at Electric Loco Shed, Tughlakabad, West Central Railway on 19.10.2019 with manufacturers of 21 **teeth Pinion** of traction motor of WAG9 loco. Minutes of Meeting has been issued on 01.11.2019 vide this office letter No.EL/3.1.35/20. The following points were discussed during the meeting:

- (a) Performance/Failure of Shaft Pinion.
- (b) Replacement of Pinion
- (c) Fatigue test of gear and pinion
- (d) Ring gauge of shaft pinion

- 2.2 RDSO drawing no. SKEL-4717, Rev-3 for elastic ring used on three phase drive electric locomotives has been revised SKEL-4717, **Rev-4** and issued to zonal railways vide this office letter no. EL/3.1.35/12 dated 18/11/2019 to Technical Specification No. RDSO/2007/EL/SPEC/0053(Rev.'1').

Minutes of Meeting held at Railway Board on 19.11.2019 on performance and warranty replacement of M/s BHEL 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.29.10.19, ELS/GZB and ELS/BRC have been asked to send the performance report of re-modified rear fan guard for M/s.ELGI make compressor model RR20100 CG (M) in three phase electric locomotive.
- 3.2 Vide RDSO letter no. EL/2.2.1/High Reach/DRE dated 31.10.2019, after registration and STR verification along with Capability Assessment M/s.DRES/Bhopal is found capable of development of High Reach Pantograph subject to develop facilities for testing of static contact force & transverse rigidity test at different heights of High Reach Pantograph. Firm is advised to submit design, drawing and bill of material.
- 3.3 Vide RDSO letter no. EL/2.2.1/High Reach/River dated 31.10.2019, after registration and STR verification along with Capability Assessment M/s.River Engineering Pvt. Ltd is found capable of development of High Reach Pantograph subject to develop facilities for testing of static contact force & transverse rigidity test at different heights of High Reach Pantograph, firm is advised to submit design, drawing and bill of material.
- 3.4 Vide RDSO letter no. EL/2.2.25/ADD/Mersen dated 06.11.2019, after registration and STR verification along with Capability Assessment M/s.Mersen India Private Limited is found capable of development of Metallised Carbon Stripes for pantograph with Auto dropping device. Firm is advised to submit design, drawing and bill of material.
- 3.5 Vide RDSO letter no. EL/1.2.9.1/Hind dated 04.11.2019, internal test report & prototype test protocol of M/s. Hind Rectifier for 2x130 KVA SIV has been scrutinised by this office. The firm is to be advised to offer for prototype inspection.
- 3.6 Vide RDSO letter no. EL/1.2.9.1 (Medha) dated 06.11.2019, after capability assessment of M/s.Medha Servo Drive Pvt. Ltd. is found capable of development of 2x130 KVA. Firm is advised to submit design, drawing and bill of material.
- 3.7 Vide RDSO letter no. EL/2.2.1/High Reach dated 08.11.19, after scrutiny of test results despatch clearance of High Reach Pantograph type IR-05HR equipped with ADD and ORD system along with control unit and air feeding insulated pipe of M/s.Contransys Pvt. Ltd. is accorded for two units against CLW's Purchase Order No. 34/2016/2948/36926 dated 25.11.2016.

- 3.8 Vide RDSO letter no. EL/3.2.15/3-phase (AIML) dated 18.11.2019, after scrutiny of routine test report of M/s. AIML for lubricated compressor model RR1750 and the test results are generally found in order, the despatch clearance for the lubricated compressor model "RR1750" is accorded in terms of DLW's P.O.No. 06181871100887 dated 24.07.2019.
- 3.9 Vide RDSO letter no. EL/3.2.19/3-Phase(CCB) dated 21.11.2019, clearance is accorded for field trial of CCB system with modified aux manifold of M/s.KBIL in at least 10 locomotives in line with inspection note dated 07.11.2019 jointly signed by representative of RDSO, ELS/GZB, ELS/TKD and M/s.KBIL
- 3.10 Vide RDSO letter no. EL/2.2.1/High Reach/ACCEL dated 21.11.2019, after STR verification and capability assessment of M/s. ACCEL is found capable of development of High Reach Pantograph. Firm is advised to submit design, drawing and bill of material.
- 3.11 Vide RDSO letter no. EL/3.2.15/OF dated 25.11.2019, QAP for oil free compressor Model RR20100 OF (M) for 3-phase & WAP-4 electric locomotives of M/s.ELGI Equipments Limited QAP document no. PR/COR/TEC/NPQ/10/R00 dated 18.02.2019 is approved. However, the responsibility of continuous updation and implementation of QAP lies with the manufacturer/vendor of the subject equipment/sub system.
- 3.12 Type testing of control cable of M/s Siechem Technology Pvt. Ltd Pondicherry to be used in BEML 75MC MEMU Project has been approved by competent authority & same has been forwarded to PS & EMU Dte for final approval.
- 3.13 RDSO official witnessed the re-type testing on Microprocessor based Electronic Speed cum Energy Monitoring System as per the RDSO specification ELRS/SPEC/SPM/0002 (Rev.4) issued on 17.07.2018 at M/s Medha Servo Drives Private Limited, Hyderabad-500 076 from 13.11.19 to 17.11.19.
- 3.14 RDSO official witnessed the performance test after completion of endurance test on Microprocessor based Electronic Speed cum Energy Monitoring System as per the RDSO specification ELRS/SPEC/SPM/0002 (Rev.4) issued on 17.07.2018 at M/s Laxven Systems, Hyderabad works on 18.11.19.
- 3.15 Type testing of control cable of M/s Siechem Technology Pvt. Ltd Pondicherry to be used in BEML 75MC MEMU Project has been approved by competent authority & same has been forwarded to PS & EMU dte for final approval.

- 3.16 RDSO official witnessed the re-type testing on Microprocessor based Electronic Speed cum Energy Monitoring System as per the RDSO specification ELRS/SPEC/SPM/0002 (Rev.4) issued on 17.07.2018 at M/s Medha Servo Drives Private Limited, Hyderabad-500 076 from 13.11.19 to 17.11.19.
- 3.17 RDSO official witnessed the performance test after completion of endurance test on Microprocessor based Electronic Speed cum Energy Monitoring System as per the RDSO specification ELRS/SPEC/SPM/0002 (Rev.4) issued on 17.07.2018 at M/s Laxven Systems, Hyderabad works on 18.11.19.
- 3.18 Prototype testing on 111 teeth gear and 25 teeth pinion manufactured by M/s. Elecon Engineering, Vallabh Vidyanagar, Gujarat for BEML project has been cleared and clearance note no. EL/4.2.13 (BEML) dated 04.11.2019 forwarded to DSE/MRVC.
- 3.19 M/s Bechem Lubrication, Bangalore had proposed 'Berusynth GP 460' oil for gear box and 'Berulub 52142' grease for axle box bearing of WAP-7 and WAG-9 electric locomotive has been approved for field trial at ELS/CNB vide this office letter No. EL/3.2.108(Lube) dated 25.11.2019.

4.0 **PROTOTYPE TESTING/QUALITY AUDIT**

- 4.1 Prototype tests on the traction motor type MJC 280-1, S.No. TAIB19003 manufactured by M/s Bombardier transportation, Germany for BEML project had been conducted from 04.11.2019 to 08.11.2019 at their Works at Germany by RDSO. Firm has to submit the complete type test report including tests witnessed by other group for scrutiny.
- 4.2 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 is under progress from 25.11.2019 onwards jointly by RDSO & CLW.
- 4.3 Testing of WAG12B prototype locomotive, number 60020, at M/s MELPL Madhepura from 6th to 7th November 2019.

5.0 **OTHER ITEMS:**

- 5.1 Based on the capacity cum capability assessment of M/s Schaeffler India Ltd., Vadodara, RDSO vide letter No. EL/2.2.13/FAG/NU2236 dated 29.11.2019 has approved the field trial of 10 loco set(60TM sets) bearing type NU2236 & NJ320 for traction motor type 6FRA6068 for six months. Firm was advised to take order


from PUs/Zonal Railways for 10 loco sets bearings, manufacturer prototype units on which proto type test will be conducted by RDSO.

- 5.2 CLW's proposal received vide letter No. CLW's letters No.CLW/TM/17710 dated 21.10.2019 & 26.11.2019 for utilization of 23926 numbers rotor bars (272 TM set) of brazed rotor design of TM type 6FRA6068 lying unused at CLW due to change of design and proposal to utilize the material in Scheme-I rotor manufacturing after minor modification of reduction in length of rotor bar (8mm in each side) has been examined. In view of the satisfactory test results and field trial reports and considering the shortage of supply of rotor bars for manufacture of rotors at CLW, request of CLW to permit further use of 90 TM sets of brazed rotors bars for manufacture of Scheme-I rotors is accepted and conveyed vide letter No. EL/3.2.182 dated 27.11.2019.
- 5.3 Revised design documents & Type Tests protocols for Traction motor type TME 48-45-6 for On-Board MEMU submitted by M/s Medha through PS&EMU Directorate had been examined as per RDSO specification No. RDSO/PE/SPEC/EMU/0096-2008 (Rev 4) of Dec-2009 along with ICF Annexure ICF/EMU/0096-02, Rev.0.Type Test & Special tests Protocol document 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 are being provisionally approved for prototype testing vide note No. EL/3.2.182/On-Board MEMU/Medha dated 29.11.2019.
- 5.4 Training for **"Advanced Management Programme"** attended by Shri Aseem Kumar, DSE-Pn at National Academy of Indian Railways/Vadodara from 11.11.2019 to 22.11.2019.

with regards,

Encl:Annexure I & II

Yours sincerely,

 04/12/19
(Om Prakash Kesari)

SHRI RAJESH TIWARI,
MEMBER TRACTION,
RAILWAY BOARD, RAIL BHAVAN,
NEW DELHI-110 001.

Annexure-I

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

Position on: 20.10.2019

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	16	16	16	
	KYN	1,2	0	0	0	Nil	
		3	0	96	96	96	
NR	GZB	1,2	143	0	143	64	Dec'19
		3	159	0	159	73	
	LGD	1,2	68	164	232	0	NA
SCR	KZJ	3	84	206	290	240	Dec.' 19
		1,2	0	0	0	Nil	
		3	0	74	148	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	13	01	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	74	31	14	29
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

Population of High Reach Pantograph (Upto Nov.19)

		Rev.1										Rev.2								Total Shed wise (Rev1+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	Shop Floor	Rev 2 Total	
CR	AQ	0	0	14	0	0	0	0	6	20	0	0	14	0	4	0	0	0	0	18
CR	KYN	0	0	1	0	0	0	0	0	1	0	0	28	0	1	0	0	2	31	32
CR	BSL	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	1	14	14
NR	LDH	0	6	0	0	0	0	0	3	9	0	1	34	0	0	0	1	0	36	45
NR	GZB	0	0	0	0	0	0	0	0	0	0	0	0	12	1	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	1
NCR	JHS	1	17	0	0	0	0	0	0	18	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	56
ER	ASN	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
ECR	GMO	0	0	0	0	0	0	0	0	0	0	1	21	0	3	0	0	0	25	25
ECR	MGS	0	0	0	0	0	0	0	0	0	0	3	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	3
ECOR	VSKP	0	0	3	0	0	0	0	3	6	0	0	1	0	0	0	0	3	4	10
SCR	KZJ	0	0	0	0	0	0	0	0	0	0	2	32	0	0	0	0	3	37	37
SCR	LGD	0	0	8	0	0	0	0	2	10	0	0	14	0	0	0	0	1	15	25
SCR	BZA	0	1	0	0	0	0	0	2	3	0	5	0	0	0	0	0	0	5	8
SER	BKSC	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	10
SER	SRC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
SER	TATA	0	2	6	0	0	0	0	3	11	0	0	8	0	0	0	0	0	8	19
SECR	BIA	0	0	8	0	2	0	0	14	24	0	0	0	0	3	0	0	0	3	27
SR	AJJ	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	4	7
SR	RPM	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	2	2	2
WCR	NKJ	0	0	0	0	0	0	0	0	0	0	5	4	0	0	0	0	1	10	10
WCR	TKD	0	0	0	0	0	0	0	2	2	0	0	41	0	7	0	0	7	55	57
WR	BL	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	0	51	51
WR	BRC	0	0	0	0	0	0	0	0	0	0	0	0	43	38	0	9	93	183	183
IR	TOTAL	1	45	84	0	2	0	0	45	177	0	72	210	55	57	0	10	145	549	726