

Fax : 0522 - 2465717
Telephone : 0522 - 2454070
e-mail: edse.rdso@gmail.com



सत्यमेव जयते

भारत सरकार – रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ – 226011

Government of India - Ministry of Railways
Research Designs & Standards
Organization, LUCKNOW - 226011

Om Prakash Kesari
Principal Executive Director Standards Electrical

D.O.No.EL.8.5.10.1

Dt: 04.03.2019

Dear Shri Ghanshyam Singh ji,

Sub: PCDO for the month of February, 2019.

1.0 HIGHLIGHTS:

- 1.1 Newly converted loco WAGC3 flagged off by Hon'ble PM at DLW on 19.02.19. Complete Design and layout was finalized for this loco by RDSO.
- 1.2 Final speed certificate for push pull operation of train with WAP7 and WAP5 locos for section NDLS – CSTM and NZM-BDTS was issued during the month. Complete scheme for push pull operation was given by RDSO.
- 1.3 Loco no. 24517, WAG7 of ELS/JHS provided with re-generative braking system had been flagged off by Member Traction (MTR) on 08.02.2019. Before this the field trial was carried out with light engine condition from Khajarahra to Belwara on 17.01.2019 and with load condition (60 empty wagons) from Jhansi to Burhpura on 19.01.2019. The peak power of 1.5 MW was regenerated by the system and fed back to OHE.
- 1.4 Reliability review meeting on performance of IGBT converter was held at ELS/HWH on 14th & 15th Feb., 2019 wherein OEMs and Zonal Railways attended the meeting. After useful deliberations, action plan was chalked out and minutes of meeting issued.
- 1.5 Technical Specification for NO 32 Tap changer for 25 KV AC conventional Locomotives bearing NO:ELRS/SPEC/GR/0039 has been revised as Rev 2 issued on 26/02/2019 up loaded on RDSO website.

2.0 DEVELOPMENTAL WORKS:

- 2.1 Limited approval to modify the pipe of converter cooling circuit of 18 mm (diameter) orifice with the pipe of 21 mm orifice having higher flow rate of 237 LPM has been accorded in 5 locos each of ELS/AQ, ELS/BIA, ELS/HWH, ELS/VSKP & ELS/GMO had been issued on 12.02.2019.
- 2.2 The capacity /capability assessment of M/s Siemens on fresh registration application for 2 X 130 kVA SIV has been found satisfactory. Firm has been advised to submit the design & drawing /BOM documents vide RDSO letter no. EL/1.2.9.1 dated 25.02.2019.
- 2.3 The capacity /capability assessment of M/s. Escorts Ltd, on fresh registration application for manufacturing and supply of computer/ Microprocessor has been found satisfactory. Firm has been advised to submit the design & drawing /BOM documents vide RDSO letter no. EL/3.2.19/ dated 05.02.2019.
- 2.4 RDSO has carried out the brake test of loco no 32146 provided with conventional brake system (type IRAB) jointly with CLW and ELS/GMO. CLW has issued a letter no. C-D & D /T/ 15 dated 22.01.19 stating that the corrective action has been taken and implemented by CLW. It is also stated final test report will be submitted by CLW. After that a proposal for speed certificate of WAG9C provided with IRAB type brake system has been prepared and forwarded to Motive Power directorate for finalization. The comments on final draft of speed certificate issued by MP Directorate vide letter no. SD.WAG9C.11 dated 23.01.19 has been furnished vide this office letter no. EL/3.2.19/ G/3 phase dated 25.01.2019. Condonation from Rly. Board is awaited for issue of final speed certificate of WAG9C.
- 2.5 Online application no. 499 dated 16.01.2019 submitted by M/s Electro Plast, 1/34, South Side G.T. Road Ind. Area, Ghaziabad (UP)-201001 for vendor registration for manufacturing and supply of Elastic Ring for three phase electric locomotives has been scrutinized.
- 2.6 Online application no. 506 dated 28.01.2019 submitted by M/s Avadh Rail Infra Ltd., Haridwar (Unit-II) for vendor registration for manufacturing and supply of Spheriblocs for three phase electric locomotives has been scrutinized.
- 2.7 Capability cum capacity assessment of M/s. Ensave Devices Pvt. Ltd., District-Palghar, Vasai-401208(Maharashtra) has been carried out on 23.02.2019 for development of LED based twin beam head light as per RDSO's Specification no. RDSO/2017/EL/SPEC/0134, Rev.0.

- 2.8 The combined unit testing of model RR 1750 of capacity 1745 lpm of M/s AIML (Anest Iwata Motherson Limited) make compressor with 15 kW motor of M/s BBL make was witnessed at M/s AIML, Greater Noida premises, from 10/02/2019 to 14/02/2019.
- 2.9 M/s Patra and Chandra make 4 pole DC earthing switch type (PCE.TES.03.04/4) bearing document no. TBSG/ACMEMU/01/DC Earthing Switch Rev. '0' has been cleared vide this office note no. EL/Indig.EMU/BHEL dated 07/02/2019.
- 2.10 Type Test report of M/s TOSHIBA make surge arrestor bearing document no. SD-16QB174 of model no. RVDQB-11PL has been cleared vide this office note no. EL/3.2.1/Metro dated 04/02/2019.
- 2.11 Type test of M/s SIEMENS Make 1250KVA EMU transformer has been witness by RDSO and M/s Medha officials carried out from 15/02/2019 to 17/02/2019 at M/s SIEMENS, Kalwa, Navi Mumbai works.
- 2.12 Comments of traction motor related documents for WAG12 had been issued on 07.02.2019.
- 2.13 A training program conducted by IIT/Kanpur was held from 18.02.19 to 21.02.19 regarding 3-phase propulsion system. DSE/TPS had given a presentation on "Railway Perspective on 3-Phase Propulsion System."
- 2.14 Design review of EMC field test procedure of WAG12 had been issued on 28.02.2019.

3.0 RELIABILITY IMPROVEMENT:

3.1 Review Meeting for Supply Issues of Bearings on Electric Locomotives:

Review meeting for supply issues of Traction Motor /Suspension tube bearings of conventional & 3-ph locomotives had been carried out on 12.02.2019. The meeting was attended by bearing manufacturers and representatives from CLW and BSL. Pending POs of bearings received from Railways were discussed with the firms. Supply targets for pending POs had been given by the firms. The minutes of meeting had been issued vide letter no. EL/2.2.13 dated 28.02.2019. Vide letter no. EL/11.5.5/21 dated 12.02.19, MoM on reliability of M/s BTIPL make propulsion equipments held at RDSO on 22.01.19 had been issued.

- 3.2 M/s KBIL proposed to provide air dryer for aux. compressor pneumatic circuit. The proposal has been studied by this office and firm has been asked to provide one unit in one locomotive base ELS/TATA for trial purpose. This is as per RDSO letter no. EL/3.2.19/3 phase dated 25.02.2019.

- 3.3 A review meeting on High reach pantograph was held on 24.01.2019, at ELS/TKD with M/s FTRTIL, M/s SCHUNK, Railways & CLW. The minutes of meeting on development of High reach pantograph has been prepared and issued vide RDSO letter no. EL/2.2.1/ High Reach dated 01.02.2019.
- 3.4 The cycle timing of Vigilance control device in 3-phase locomotive equipped with E-70 brake system has been standardized in their proposal by M/s FTRTIL. However, VCD acknowledgement by independent brake valve (SA-9) is not followed in E 70 brake system. Firm has been advised to do need full action towards standardization vide RDSO letter no. EL/3.2.19/ 3-phase dated 17.01.2019. The implementation of standardization is awaited.
- 3.5 A SMI no. RDSO/2018/EL/SMI/0327 Rev '0' on procedure for testing and setting of pressure switches being used in E 70 and CCB brake system has been prepared and uploaded on RDSO website, vide RDSO letter no. 3.2.19/3 phase dated 11.02.2019.
- 3.6 M/s KBIL/ Palwal proposed to change the pneumatic air supply arrangement (modification KIT) for ULV, TC 1&2 and FC- CoC in brake panel. The proposal has been studied by RDSO and advised firm to provide in two locos each at ELS/RPM, LGD, AQ, TATA & TKD for field trials.
- 3.7 A meeting was held at RDSO on 19.02.2019 with Electric Loco Sheds & firm's representatives to review the performance of Spheriblocs and its replacement schedule. During meeting Railways were advised to upload performance feedback of spheriblocs on RDSO web portal. M/s BHC was asked to submit design of jig/fixture for fitment of spheribloc aligned to torque arm & axle guide. The MOM (minute of meeting) has been prepared and issued to firms and railways vide this office letter no. EL/3.1.35/12(SB) dated 25.02.2019.
- 3.8 Meeting with OEMs of ESMON & Railways was held on 09.01.19 at RDSO to discuss performance of ESMON and Minutes of meeting (MOM) was circulated vide letter no. EL/2.2.9/10, dated 14.01.2019.
- 3.9 MoM on reliability of M/s BTIPL make propulsion equipments held at RDSO on 22.01.19 had been issued on 12.02.19.
- 3.10 Vide letter no. EL/11.5.5/21 dated, MoM on reliability of Propulsion Equipments of IGBT based 3-phase locomotive held at ELS/HWH/ER had been issued on 20.02.19.

4.0 SPECIFICATION/STR:

- 4.1 Draft Specification no. RDSO/2007/EL/SPEC/0054 Rev 03 has been uploaded on RDSO website for comments from ZRs and vendors vide RDSO letter no. EL/2.2.1/High reach dated 01.02.2019.
- 4.2 Specification no. RDSO/2017/EL/SPEC/0134(Rev.0) of twin beam LED head light for Electric Locomotives has been revised and a draft Specification no. RDSO/2017/EL/SPEC/0134 (Rev.1) uploaded on 31.01.2019 at RDSO website for comments from industries and zonal railways.
- 4.3 Specification no. RDSO/2007/EL/SPEC/0053 (Rev.1) of Elastic ring used on three phase drive Electric Locomotives has been revised and a draft Specification no. RDSO/2007/EL/SPEC/0053 (Rev.2) uploaded on 04.02.2019 at RDSO website for comments from industries and zonal railways.
- 4.4 Final draft specification for intra operable DPWCS for Electric Locomotive has been posted on RDSO website for comments/suggestion of Railways and Firms vide letter no: 3.1.3 /DPWCS dated 27/02/2019.

5.0 PROTOTYPE TESTING/QUALITY AUDIT:

- 5.1 The prototype testing of oil lubricated compressor model RR 1750 of M/s AIML test is under progress.
- 5.2 After type test two high reach pantograph type LX 3600 of M/s Faively has been provided in loco no. 32313 of ELS/ GMO and Loco no. 32387 of ELS/LDH. After commissioning the current collection and field trial will be carried out.
- 5.3 Wind tunnel test, Shock and vibration test and heating test have been carried out on high reach pantograph type IR-05 HR of M/s Contransys. The test report is under scrutinizing. Balance test will be carried out after verification of type test report.

6.0 OTHER ITEMS:

- 6.1 Design Document No. TEC-KME-RDMT-S001-07, Version 7 (total 317 pages) including 17 attachments with 31 numbers A3 size drawings of traction motor type YQ-190-28 submitted by M/s Zhuzhou CRRC Times Electric Co. Ltd, had been examined and provisionally approved vide Electrical Directorate's note no. EL/3.2.182/K.Metro/Zhuzhou dated 25.02.2019.
- 6.2 Document no. NRD0000572260 Rev. 0 for internal type test report of traction motor, motorette test protocol document no. TRO/DPT/NT2017.023, Index 'E', remote monitoring system submitted by M/s Alstom had been examined. Comments had been given vide note no. EL/3.2.182 (Madhepura) dated 04.02.2019 & 27.02.2019.

- 6.3 Motorette test report, roller suspension bearing test report and repeat of temperature rise of rotor of traction motor type IM3601 AZ submitted by M/s BHEL for indigenous 3-phase AC EMUs had been examined. Acceptance of test reports of motorette, roller suspension bearing test and repeat temperature rise test of rotor had been communicated vide Electrical Directorate's notes no. EL/3.2.182 (BHEL) dated 22.02.2019.
- 6.4 Type test results including repeat temperature rise test on sinusoidal supply(0% chocking) of 3-ph traction motor type SEA-445 of M/s Toshiba for Dalian project of Metro Railway Kolkata had been examined and provisionally approved subject to submission of overall characteristics test for powering & braking at certain voltages vide letter no. EL/MRS/3-Phase/GP-217/DLRC dated 25.02.2019.
- 6.5 CVO/RDSO and MR/ISO/RDSO are being requested to modify ISO document no QO-D-8.1-5 version 1.0 dated 12.09.2018 (application for registration of Vendor) vide this office note no. EL/ISO/0001/G dated 26.02.2019.
- 6.6 Time period for up-gradation of vendor from "RDSO vendors for developmental order posted on RDSO Website" to "List of approved vendor" has been modified in line with the directive as in ISO apex document.
- 6.7 Detailed information required for Kalka-Shimla Railway Narrow Gauge (NG) was provided to TI directorate vide note no. EL/3.2.1(ZDM3), dated 14.01.2019.

with regards,

Yours sincerely,

Om Prakash Kesari 04.3.19

(Om Prakash Kesari)

**Shri Ghanshyam Singh,
Member Traction,
Railway Board, Rail Bhavan,
New Delhi-110 001**

Copy for kind information to-

Additional Member (Electrical), Railway Board, Rail Bhawan, New Delhi-01.

Om Prakash Kesari 04.3.19

(Om Prakash Kesari)

For Director General/Electrical

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	Balance to be modified	PDC
CR	AQ	1,2	16	226	242	126	Dec'19
		3	16	226	242	242	
ECR	GMO	1&2	0	198	198	78	Dec'19
		3	0	49	49	0	
NR	GZB	ALL	143	0	143	93	Dec'19
SR	RPM	1 & 2	52	0	52	3	June'19
		3	86	0	86	20	
SCR	LGD	1&2	68	164	232	11	June'19
		3	84	206	290	242	
SCR	KZJ	3	0	8	8	9	April 19
SER	TATA	3	0	70	70	49	Dec.'19
SECR	BIA	1,2&3	16	57	73	All completed	Mar'19
WCR	TKD	1, 2 & 3	39	77	116	55	Oct'19
		3	8	12	20	8	April 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

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	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	112	20	92	0
9	KZJ +GY(D)	38	26	3	9
10	TATA	152	1	151	0
11	BIA	102	31	69	2
12	TKD	103	78	3	22
13	NKJ	29	11	14	4
14	BNDM	41	18	19	4
Total		1230	306.5	822.5	101