

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

मानक नगर, लखनऊ – 226011  
Government of India - Ministry of Railways  
**Research, Designs & Standards Organization,**  
Manak Nagar, LUCKNOW – 226011  
Tel. : 91-522-2450374 Fax : 0522-2462581  
e-mail : sredse@gmail.com

D.O.No.EL.8.5.10.1

Dt: 31.10.2019

*Dear Shri Rajesh Tiwari ji,*

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

...

**1.0 HIGHLIGHTS**

- 1.1 39th Maintenance Study Group (MSG) Meeting for Electric Locomotives was conducted at Electric Loco Shed, Ajni, Nagpur/Central Railway on 14<sup>th</sup> & 15<sup>th</sup> October 2019. All the issues as per agenda were deliberated in details. Draft of minutes sent to Railway Board vide letter No. EL/2.1.8 dated 24.10.2019 and 31.10.2019.
- 1.2 In compliance to Railway Board's directive, a common Specification for Crew Voice & Video Recording System (CVVRS) for Electric & Diesel Locomotives bearing no. RDSO/2015/EL/SPEC/0118 (Rev.'1') was issued on 24.10.2019 & uploaded on RDSO website. This specification takes care of all the points raised by industry, PUs and Zonal Railways.
- 1.3 A workshop was held on shop floor at ELS/AQ on 10.10.2019 for fitment of **bolt type** anti-falling traction motor arrangement in WAP7 at all three locations (1, 2 and 3). The same was demonstrated on 15.10.2019 during 39<sup>th</sup> MSG held at ELS/AQ. Similarly, a workshop was also held on shop floor at ELS/TATA on 23/24.10.2019 for fitment of **bracket type** anti-falling traction motor arrangement in one loco (WAG9H) of different design at location Nos.1 and 2. Performance will be watched and thereafter decision will be taken for regular cut-in.
- 1.4 A technical audit of M/s FTRTIL, Hosur has been organised in association with ELS/BIA, ELS/GZB, ELS/RPM, ELS/LGD and CLW. The Audit Report issued vide letter no. EL/3.2.19/3-phase dated 25.10.2019.
- 1.5 Technical Circular No.ELRS/TC/0076 Rev.'2' for oil leakage from the transformer bushings & covers in 3-phase locomotives was issued vide letter No.EL/3.2.1/3-phase dated 01.10.2019, wherein the sources for various types of gaskets have been removed and technical circular was made generic.
- 1.6 A meeting was held at Electric Loco Shed, Tughlakabad, West Central Railway on 19.10.2019 with manufacturers of **21 teeth Shaft Pinion** of three phase electric locomotives to discuss various issues raised by Zonal Railways.



## **2.0 RELIABILITY IMPROVEMENT:**

- 2.1 To arrest the problem of Breakage of Gear Case Safety Device Clamp (**Stopper**) reported by ELS/BRC/WR in WAP5, RDSO (Electrical Directorate) has revised existing RDSO drawing No.SKEL-5003 (Alt.0) Sheet 11/11(Rev.0) as RDSO drawing No.SKEL-5003 (Alt.0) Sheet 11/11(Rev.1) and issued to Zonal railways.
- 2.2 Meeting on issues related to modified MSU drive system and MSU bearings of WAG-9/ WAP-7 locomotives conducted with bearing manufacturers, SCR & CLW at RDSO on 10.10.2019. Minutes of Meeting had been issued vide RDSO's letter No. EL/1.3.10/3 dated 18.10.2019.

## **3.0 DEVELOPMENTAL ACTIVITIES**

- 3.1 Vide RDSO letter No.EL/2.2.1/High Reach dated 30.01.2019, fresh vendor registration application of M/s Air Control and Chemical Engineering Co. Ltd. Ltd. has been scrutinized and deficiencies advised.
- 3.2 Prototype inspection of High Reach Pantograph type IR-05HR of M/s Contrasys was conducted at firm premises and the test report submitted on 21.09.2019, the test results were found to be in order. As such two prototype unit of the pantograph for routine tests were offered equipped with ADD and ORD and tests carried out, test report under scrutiny.
- 3.3 Vide RDSO letter No.EL/3.2.15/3-phase/SDC dated 11.10.2019, the application for 1745 lpm oil lubricated compressor Model PEL 1745 submitted by M/s Saber Dais Compression Limited/Kaithal has been accepted. But QAP as submitted was not in line with RDSO's ISO document no. QM-RF-8.1-3 Version No: 1.0 effective from 28.08.2018. Hence, firm will resubmit the same.
- 3.4 Vide RDSO letter No.EL/3.2.19/3-Phase/TCAS dated 22.10.2019, MOM on development of brake interface for TCAS of 3-Phase locomotives equipped with E-70 and CCB Brake system has been issued.
- 3.5 Capacity Cum Capability assessment for development of high reach pantograph of M/s. River Engineering/Noida & M/s.DRESPL/Bhopal has been carried out on 21.10.19 & 22.10.19 respectively.

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

- 4.1 RDSO official witnessed the Prototype Testing of M/s Laxven, Hyderabad make Loco ESMON from 13.10.2019 to 16.10.2019 at firm's premises. The Prototype unit has been put under Endurance Test.
- 4.2 RDSO official witnessed the type testing of various types of control cables of M/s Siechem in firm's premises at Pondicherry from 14.10.2019 to 25.10.2019.



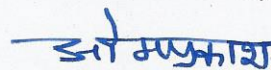
- 4.3 Prototype tests on the traction motor type YQ-190-28, S.No. 2019-001 manufactured by M/s CRRC Zhuzhou Motor Co. Ltd., Zhuzhou, China for Kolkata Metro had been conducted from 05.10.2019 to 11.10.2019 at their Works at Zhuzhou, China jointly by RDSO & ICF. Firm has to submit the complete type test report including witnessed tests & non witnessed tests for scrutiny.
- 4.4 Prototype inspection of one set of TM bearings (NU2236 & NH320) for traction motor type 6FRA 6068 manufactured by M/s NEI, Jaipur was carried out from 03.10.2019 to 04.10.2019 and cleared for fitment & service trial vide letter No.EL/2.2.13/NEI/NU2236 dated 25.10.2019.
- 5.0 **OTHER ITEMS:**
- 5.1 RDSO official attended the meeting at Railway Board on 04.10.2019 to review the progress of implementation of Real-time Train Information System (RTIS)-phase1 & discussion on technical specification of RTIS-phase 2.
- 5.2 Training for refresher course "TRS\_CON-I" attended at IRIEEN/Nasik from 14-10-19 to 18-10-19 by Sh. M.Pal, JE/DESIGN/ELECT.
- 5.3 Representation of M/s Pearl Engineering Co. on adoption of Indian Standard specification for 5 mm thick solid end plates for stator and rotors of three phase traction motors forwarded by Railway Board vide letters No.2007/Elect(TRS)/441/8 pt dated 14.08.2019 & 13.09.2019 had been examined. RDSO vide letter No. EL/3.2.182 dated 01.10.2019 had apprised Railway Board for action already taken at this end.
- 5.4 Revised design document for traction motor type TME 49-35-4 for Under-Slung EMUs/MEMUs submitted by M/s Medha had been examined as per Specification No. RDSO/PE/SPEC/EMU/0096-2008(Rev.4) of Dec, 2009 along with ICF Annexures ICF/EMU0096-01, Rev'2'. Comments had been given vide Electrical Dte's note No.EL/3.2.182/Under-Slung EMU/ MEMU/Medha dated 11.10.2019.

*with regards,*

Encl: Annexure I, II & III

**Shri Rajesh Tiwari,  
Member Traction,  
Railway Board, Rail Bhavan,  
New Delhi – 110 001**

Yours sincerely,

 31.10.19  
(Om Prakash Kesari)

Copy for kind information to -  
Additional Member (Electrical), Railway Board, Rail Bhawan, 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                     |         |
| ECR | GMO  | 1,2         | 0    | 198   | 198                 | 58                     | Dec'19  |
|     |      | 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           | 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.

**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  | 42                    | 9                     | 3                        | 30                                |
| 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                                 |
| <b>Total</b> |      | <b>1335</b>           | <b>344.5</b>          | <b>788.5</b>             | <b>208</b>                        |



## Population of High Reach Pantograph (Upto Oct.'19)

| Population of High Reach Pantograph (Upto Oct.'19) |       |       |       |       |       |       |       |       |            |             |       |       |       |       |       |       |       |            |             |                          |
|--|-------|-------|-------|-------|-------|-------|-------|-------|------------|-------------|-------|-------|-------|-------|-------|-------|-------|------------|-------------|--------------------------|
| RLY  | Shed  | Rev.1 |       |       |       |       |       |       |            |             | Rev.2 |       |       |       |       |       |       |            |             |                          |
|  |       | 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 | Total Shed wise (Rev1+2) |
| CR   | AQ    | 0     | 0     | 14    | 0     | 0     | 0     | 0     | 0          | 20          | 0     | 0     | 14    | 0     | 4     | 0     | 0     | 0          | 18          | 38                       |
| 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     | 0          | 9           | 0     | 0     | 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   | KJGY  | 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     | 0          | 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     | 0          | 6           | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 3          | 4           | 10                       |
| SCR  | KZI   | 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                      |