



सत्यमेव जयते

No. EL/3.1.28

भारत सरकार-रेल मंत्रालय
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S.No. 4115

Dated: 04/04/2014

Chief Electrical Engineers,

- i. Central Railway, Mumbai, CST-400 001.
- ii. Eastern Railway, Fairlie Place, Calcutta-700001.
- iii. East Coast Railway, Chandrashekharpur, Bhubneshwar-751 016
- iv. Northern Railway, Baroda House, New Delhi-110001.
- v. North Central Railway, Subedarganj, Allahabad
- vi. Southern Railway, Park Town, Chennai-600 003.
- vii. South Central Railway, Secunderabad-500 071.
- viii. South Eastern Railway, Garden Reach, Calcutta-700 043.
- ix. South Western Railway, Hubli
- x. Western Railway, Church gate, Mumbai-400 020.
- xi. West Central Railway, Jabalpur-482001
- xii. South East Central Railway, Bilaspur-495 004
- xiii. East Central Railway, Hazipur-844101.
- xiv. North Western Railway, Jaipur-302 006
- xv. Chittaranjan Locomotives Works, Chittaranjan-713 331.

MODIFICATION SHEET NO. RDSO/2014/EL/MS/0339 (Rev.1) , Dated 04.04.2014**1.0 TITLE**

Provision of Visual Indication along with Push button Switch on WCAM2 (GR 18:64/15:62)/WCAG1 (GR 16:65)/WAP4 (GR 23:58)/WAM4 (15:62/18:64)/WAG5 (GR 15:62), WAG5 (GR 18:64) & WAG7 (GR 18:64/16:65) for altering of Loco Pilot not to exceed Traction Motor current while starting on bridges to limit tractive effort as 30T/per loco.

2.0 BACKGROUND

In terms of RDSO letter No. SD.WAG7.11 dated 10/06/2005 and 13/06/2005 Para 2.4.2. RDSO had issued Modification sheet no. ELRS/MS/0339 Rev '0' vide letter no. EL/3.1.28 dated 22/06/2005 for provision of a visual indication along with push button switch in WAG7 class of Electric Locomotives for guidance of Loco Pilot not to exceed TM current 970A (GR 18:64) or 890A (GR 16:65) while starting on the bridges for BGML spans 26.5m, 31.9m, 47.3m, 67.0m & 76.8m (all effective).

In line with B&S Directorate note no. CBS/WAG9 dated 11/02/2014, the aforesaid Modification sheet no. ELRS/MS/0339 Rev '0' has been amended by incorporating the other class of electric locomotives i.e. WCAM2/WCAG1/WAP4/WAM4/WAG5 including WAG7 in which Tractive Effort limiting switch shall be provided to limit the TM current while starting on bridges to limit tractive effort as 30T/per loco as under.

Loco type	Gear Ratio	Make of TM	TM current while starting on bridges to limit tractive effort as 30T/per loco
WCAM2 (AC mode)	18:64	HS 15250	DO NOT EXCEED TM CURRENT OF 980A
WCAM2 (AC mode)	15:62	TAO 659	DO NOT EXCEED TM CURRENT OF 1000A
WCAG1 (AC mode)	16:65	HS 15250A	DO NOT EXCEED TM CURRENT OF 880A
WAP4	23:58	HS 15250	DO NOT EXCEED TM CURRENT OF 1315A

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WAM4	15:62	TAO 659	DO NOT EXCEED TM CURRENT OF 1000A
WAM4	18:64	IIS 1050	DO NOT EXCEED TM CURRENT OF 975A
WAG5	15:62	TAO 659	DO NOT EXCEED TM CURRENT OF 1000A
WAG5	18:64	IIS 15250A	DO NOT EXCEED TM CURRENT OF 990A
WAG7	18:64	IIS 15250	DO NOT EXCEED TM CURRENT OF 970A
WAG7	16:65	IIS 15250	DO NOT EXCEED TM CURRENT OF 890A

The existing Modification sheet no. ELRS/MS/0339 Rev '0' issued vide letter no. EL/3.1.28 dated 22/06/2005 is superseded by this Modification sheet.

3.0 OBJECT

This is to limit Tractive Effort to 60T in double headed WCAM2/WCAG1/WAP4/WAM4/WAG5 & WAG7 class of electric locomotives while starting on bridges with the spans of 26.5m,31.9m,47.3m,67.0m & 76.8m(all effective) on BGML standard spans.

4.0 WORKS TO BE CARRIED OUT

- The display unit shall be placed in front of Loco Pilot in both the cabs of WCAM2/WCAG1/WAP4/WAM4/WAG5 & WAG7 class of electric locomotives, preferably below the speedometer.
- The size of the display unit box along with push button switch shall not be more than
Length 200 mm
Width 60 mm
Height 60 mm
- Display unit shall function as an interface by the Loco Pilot by pressing push button switch.
- Display message should be in two lines having 40 characters & it should be alphanumeric type.
- The message to be displayed is given as under.

<u>Loco type</u>	<u>Gear Ratio</u>	<u>Message</u>
WCAM2 (AC mode)	18:64	DO NOT EXCEED TM CURRENT OF 980A
WCAM2 (AC mode)	15:62	DO NOT EXCEED TM CURRENT OF 1000A
WCAG1 (AC mode)	16:65	DO NOT EXCEED TM CURRENT OF 880A
WAP4	23:58	DO NOT EXCEED TM CURRENT OF 1315A
WAM4	15:62	DO NOT EXCEED TM CURRENT OF 1000A
WAM4	18:64	DO NOT EXCEED TM CURRENT OF 975A
WAG5	15:62	DO NOT EXCEED TM CURRENT OF 1000A
WAG5	18:64	DO NOT EXCEED TM CURRENT OF 990A
WAG7	18:64	DO NOT EXCEED TM CURRENT OF 970A
WAG7	16:65	DO NOT EXCEED TM CURRENT OF 890A

- The feed to the display board shall be taken from cable No. 201 after CCLS & BL1/BL2 & B^{ve} (110V DC).
- The message text shall be fixed from factory itself & shed /running staff shall not be able to temper/alter the message.
- The message will popup when the Loco Pilot pushes/operates the push button while entering into such block section where effected bridges are there.

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- (ix) Instruction shall be issues to LPs that they should press the push button while entering the block section where such bridges are located, so that the visual indication will popup, reminding the LP that he should not exceed Traction Motor current limit while starting on such bridges. Necessary instruction for operation of Tractive Effort Limiting Switch over the specified bridges shall be included in the working time table of the division & action shall be taken on Route Learning by LIs, LPs & ALPs for operation of Tractive Effort Limiting Switch.

5.0 **APPLICATION TO CLASS OF LOCOMOTIVES**

All WCAM2/WCAG1/WAP4/WAM4/WAG5 & WAG7 class of electric locomotives.

6.0 **MATERIAL REQUIRED**

Display unit alongwith push button switch.

7.0 **MATERIAL RENDERED SURPLUS**

None

8.0 **REFERENCES**

- (i) Railway Board's letter No.2005/Elect.(TRS)/440/11 dated 18/05/2005
- (ii) RDSO letter No. SD.WAG7.11 dated 10/06/2005
- (iii) Central Railway letter no. L.253.AC.141 dated 22/11/2013.
- (iv) B&S Directorate Note no. CBS/WAG9 dated 11/02/2014.

9.0 **MODIFICATION DRAWING**

Nil

10.0 **AGENCY FOR IMPLEMENTATION**

Electric Loco Sheds having WCAM2/WCAG1/WAP4/WAM4/WAG5 & WAG7 class of Electric Locomotives, CLW & POH Workshops.



(A.K.Rastogi)

for Director General Std./Electrical

Encl: Nil

Copy to:

- 1. Secretary (Electrical), Railway Board, Rail Bhawan, New Delhi-110 001
- 2. Sr. Divisional Electrical Engineer, Electric loco shed



(A.K.Rastogi)

for Director General Std./Electrical

Encl: Nil