(1)

SUB: INDIAN RAILWAY SIGNAL ENGINEERING MANUAL

(JULY 2021 EDITION)

ADDENDUM AND CORRIGENDUM SLIP NO. 8.

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For enhancing safety at level crossings, guidelines have already been issued vide Boards letter no.2023/CE-II/Safety/Instruction dtd.10.07.2025 for construction of Relays Huts at all non interlocked level crossings having TVU>10000. Zonal Railways to also take up interlocking of these level crossings with TVU more than 10000 accordingly. Only those LC gates may be interlocked which are not planned for elimination in the near future.

In this regards a copy of Addendum and Corrigendum Slip No.8 of the Indian Railway Signal Engineering Manual (July 2021 Edition) is sent herewith for necessary action.

This issues with concurrence of Board's finance directorate.

Case No. 2024/Sig/33/1/SEM/Misc (eFile 3481506)

DA: Corrigendum Slip No. 8.

29.08.2025

श्याम वर्मा / Shyam Verma
कार्यकारी निदेशक/ सिग्नल (विकास)
Executive Director/ Signal (Dev.)
edsd@rb.railnet.gov.in

New Delhi, dated: 29.08.2025

Copy to:

PSOs/Sr. PPSs/PPSs/PSs to CRB & CEO, MF, MI, MTRS, MOB&D, DG/HR, DG/RHS, DG/RPF, DG/Safety, Railway Board.

Sr.PPS/PPS to Secretary, Railway Board, Sr.PPSs/PPSs/PSs to AM(Budget), AM(CE), AM(M & BD), AM(Traction), AM(Fin.), AM(ME), AM(Plg), AM(Signal), AM(T&C), AM(Traffic), AM(Works), AM(Telecom), AM(Revenue), AM(RE), AM(L&A), AM(Comml.), AM(PU), AM(RS),

Sr.PPSs/PPSs/PSs to PED/Account, PED/CE(P), PED/Infra, PED/EERS, PED/Safety, PED/GS, PED/EE(Dev.), PED/TTM, PED/Tk/(M&MC), PED/IR, PED(Bridge), PED(Chg.), PED/Vig., PED/W& Dev , PED/Staff, PED/HR, PED/SM, PED/S&T(Dev.)

GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

No.2024/Sig/33/1/SEM/Misc (eFile 3481506) New Delhi, dated: 29.08.2025

SUB: INDIAN RAILWAY SIGNAL ENGINEERING MANUAL ADDENDUM AND CORRIGENDUM SLIP NO. 8.

1. The General Managers/ All Indian Railways.

2. The Director General/ RDSO/ Lucknow.

3. The Director General, NAIR, Vadodara.

4. The Chief Commissioner of Railway Safety, 3rd Floor, Traffic Account Bldg, State Entry Road, New Delhi-110055

5. The Commissioner of Railway Safety, Western Circle, 2nd floor, Churchgate, Station Building Annexe, M.K.Road, Mumbai – 20.

6. The Commissioner of Railway Safety, Central Circle, 2nd floor, Churchgate, Station Building Annexe, M.K.Road, Mumbai – 20.

7. The Commissioner of Railway Safety, Eastern Circle, 12th floor, 14 Strand Road, Kolkata.

8. The Commissioner of Railway Safety, South Eastern Circle, 12th Floor, 14 Strand Road, Kolkata.

09. The Commissioner of Railway Safety (Metro Railway), C/o CRS/Eastern Circle, 12th Floor, 14 Strand Road, Kolkata.

10. The Commissioner of Railway Safety, Southern Circle, 7 Seshadri Road, Gandhinagar PO, Bangalore -9.

11. The Commissioner of Railway Safety, South Central Circle, Sarojini Devi Road, Secunderabad – 71.

12. The Commissioner of Railway Safety, North Eastern circle, NE Railway Compound, Hazratganj, Lucknow – 1.

13. The Commissioner of Railway Safety, Northeast Frontier Circle, 12th Floor, 14 Strand Road, Kolkata.

14. The Commissioner of Railway Safety, Northern Circle, Safdarjung Railway Station Building, Chanakyapuri, new Delhi – 21.

15. ADAI (Railways), New Delhi (with 15 spare copies for Chief Auditor).

16. As per list 'A' attached.

LIST 'A'

1. PCSTE's, All Indian Railways.

2. PED(S&T)/, RDSO Lucknow.

3. The Director General - IRICEN, Pune
   - IRIEEN, Nasik
   - IRISET, Secunderabad
   - IRIMEE, Jamalpur
   - IRITM, Lucknow

4. Director/S&T - CAMTECH, Gwalior

5. The Chairman & Managing Directors/

   Managing Directors
   - Konkan Railway Corporation Ltd. New Delhi
   - IRCON International Ltd, New Delhi
   - RITES Ltd., Gurugram
   - RVNL, New Delhi
   - DFCCIL, New Delhi
   - DMRC, New Delhi
   - MRVC Ltd., Mumbai
   - RLDA, New Delhi
   - IRFC, New Delhi
   - RCIL, New Delhi
   - National High Speed Rail Corporation, New Delhi

Chapter 14: LC Gates

Section 1: LC General

14.1.1 **Codes:** This chapter shall be read in conjunction with chapter III and Chapter XVI of General Rules, Chapter 7 and Chapter 20 of SEM.

14.1.2 **Classification of Level Crossings** *(Ref: Para 902, Chapter 9 of IRPWM)*

The classification of road-rail surface level crossings shall be decided by the Engineering Department as per para 902 (refer to IRPWM) of Indian Railways Permanent Way Manual (IRPWM).

Level crossings are classified as under:

(a) Special class: For roads having TVU greater than 50,000.

(b) A Class: For roads having TVU between 50,000 and 30,000 or Line capacity utilisation 80% (on single line section) and number of road vehicle more than 1000.

(c) B Class – TVUs less than 30,000 and up to ~~20,000~~ 10,000 and number of road vehicles greater than 750.

'B' Class is further subdivided as following:

B1 class... TVUs less than 30,000 and up to 25,000

B2 class... TVUs less than 25,000 and up to ~~20,000~~ 10,000

(d) C Class: All other Level crossings for road not covered in above classes.

Note: Please refer to chapter-9 of IRPWM, Para 902 & other Engg. Dept`s notifications on latest norms

14.1.3 **Categories of Level Crossing Gates**

Gates can be broadly divided into the following categories:

(a) **Non-Interlocked Gates, Interlocked Gates:**

(i) **Non-Interlocked Gates:** These gates may be in the form of lifting barriers or swing/ movable gates of approved design. These gates are installed and maintained by engineering department. Communication equipments of approved type are provided and maintained at such manned gates by S&T department.

(ii) **Interlocked Gates:** At interlocked gates, interlocking and communication equipment are provided and maintained by S&T department. These gates are interlocked and protected with signals.

24.08.2025
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Para No. 14.1.5(c), 14.1.5(d), 14.1.5(e), 14.2.1(q) Annexure 14-A1

Safety Measures to be Provided at Level Crossings

	Spl. Class	A Class	B1 Class	B2 Class	C Class (Manned)	Other Stipulations
TVU->	>50000	>30000 and <50000	>25000 and <30000	>20000 10,000 and <25000	>3000 Cat I and >2500 Cat II	
1. Interlocking of Gates with Signals						
a) Within Station Limits	Should be Interlocked with Station Signals	Should be Interlocked with Station Signals	Should be Interlocked with Station Signals	Should be Interlocked with Station Signals	Should be Interlocked with Station Signals in Suburban section, in Automatic Block signalling. In Non-Suburban section, all traffic gates should be interlocked with station signal or if it has to be interlocked for any other reason.	To minimize the Mean Waiting Time for road users, the arrangement of Interlocking should be such that the last operation before taking 'OFF' of Signal should be the closing of the Gate and the first operation after the train has cleared the Level Crossing and the Signal is put back to 'ON' position, should be opening of the Gate by the Gateman.
b) Outside Station Limits	Should be Interlocked with Gate Signals	Should be Interlocked with Gate Signals	Should be Interlocked with Gate Signals	Should be Interlocked with Gate Signals	Should be Interlocked with Gate Signals, in Automatic Block Signalling sections.	i) In case of Level Crossing protected by signal, where the sighting of the signal by an engine driver is in adequate and the Gate signal is not pre - warned through other means (Distant Signal/Independent Warner Signal/Repeater Signal etc.), a Warning Board should be placed at not less than the emergency braking distance in the rear of the Gate Stop Signal. The board should be vertical 2000 mm by 450 mm with alternate black and yellow strips 125 mm width painted on it at an angle of 45 degree. The top of the board should be 4 meter above rail level. The board need not be lit at night but should as for as possible be provided with scotchlite or other effective light

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	Spl. Class	A Class	B1 Class	B2 Class	C Class (Manned)	Other Stipulations
TVU->	>50000	>30000 and <50000	>25000 and <30000	>20000 and <25000	>3000 Cat I and >2500 Cat II	
						reflectors or retro- reflective tape.
						ii) Where level crossing is situated outside station limits but in close proximity thereof, the clear distance between the level crossing and an outer signal should not be less than the full train length.
Note: All manned level crossing gates both within and outside station limits falling on suburban sections and Automatic Block Signalling section shall be interlocked irrespective of the classification/TVUs of the gates.						
c) Normal Position of Gate	Shall be normally kept open to Road Traffic				If Interlocked, shall be normally kept open to Road Traffic	
2. Telephonic or any other Approved type Communication from the Gate Lodge						
Within or outside Station Limits	Telephone or any other approved type be provided with ASM's office with all Manned Level Crossing Gates.					In Block Sections having large number of Level Crossing Gates, the connections should be uniformly distributed between the Block Stations.
	Ref. Railway Board letter no. 2010/Tele/11(11)/1 Pt. dated 31.10.17					
3. Warning Bells or Hooters Operated by Approaching Train at Interlocked LC Gate						
Within or Outside Station Limits	Provision of Warning bell or hooter operated by Approach Train at Interlocked LC Gates in suburban section and non-suburban sections be provided on sections having Automatic Signalling. (Ref. RB's letter No. 2011/SIG/WP/LC/IR/1 dated 20.02.2013)					

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	Spl. Class	A Class	B1 Class	B2 Class	C Class (Manned)	Other Stipulations
TVU->	>50000	>30000 and <50000	>25000 and <30000	>20000 and <25000	>3000 Cat I and >2500 Cat II	
4. Type of Lifting Barrier						
a) Within or Outside Station Limits	Electrically Operated Lifting barrier	Electrically Operated Lifting barrier	Electrically Operated Lifting barrier	Electrically Operated Lifting barrier	Electrically Operated Lifting barrier in Sub-urban Section.	In Non-Suburban Section, Electrically Operated Lifting barrier be provided, where Power supply is Reliable.
5. Approach Locking						
(i) To be provided in Sub-urban Section. (ii) Dead Approach Locking with Timing of 60 Sec in other sections.						
6. Warning Bell or Hooter for Road User Provision of Warning Bell or Hooter may be provided at all interlocked LC gates for road users which will sound during closing of gate.						

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