

GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

No.2022/Sig/33/1/SEM/Misc (eFile 3395973)

New Delhi, dated: 23.04.2025

**SUB: INDIAN RAILWAY SIGNAL ENGINEERING MANUAL ADDENDUM
AND CORRIGENDUM SLIP NO. 7.**

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, 16A, Ashoka Marg, Lucknow-1
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. ED(S&T)/, RDSO Lucknow.

3. The Director General

- IRICEN, Pune
- IRIEEN, Nasik
- IRISSET, Secunderabad
- IRIMEE, Jamalpur
- IRITM, Lucknow

4. 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, Gurugram
- National High Speed Rail Corporation

SUB: INDIAN RAILWAY SIGNAL ENGINEERING MANUAL

(JULY 2021 EDITION)

ADDENDUM AND CORRIGENDUM SLIP NO. 7.

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A copy of Addendum and Corrigendum Slip No.7 of the Indian Railway Signal Engineering Manual (July 2021 Edition) is sent herewith for necessary action.

Case No. 2022/Sig/33/1/SEM/Misc (eFile 3395973)

DA: Corrigendum Slip No. 7.

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

New Delhi, dated: 23.04.2025

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.)

**INDIAN RAILWAY SIGNAL ENGINEERING MANUAL
(JULY 2021 EDITION)**

Addendum and Corrigendum Slip No. 7

Chapter 3, Para 3.6.5: Opening of works	
Sub item (b) to be replaced by	When a new work or alteration to an existing work is about to be brought into service, the SSE(Signal)/Incharge shall ensure that approved plans, Control Table, circuit diagrams, CRS/ General Manager/ PCSTE sanctions, required approvals, OEM test certificates of equipments, FAT/SAT Testing reports etc. are available before commissioning/opening (Refer Annexure: 21-A2). If there are minor alterations, the existing diagrams may be corrected and endorsement made by the SSE(Signal)/Incharge duly advising HQ for updating their records.
Chapter 8, Para 8.1.1: Preparation – General Procedure	
Sub item (j) to be replaced by	History of each station's Signalling plans shall be recorded in chronological order along with CRS/ General Manager/ PCSTE sanctions, Date of commissioning, Date of Plan updating, details etc. with remarks for any review required.
Chapter 8, Para 8.1.3: General Practices and sizes of Drawings	
Sub item (b) to be replaced by	In preparing plans or making ferro prints, wastage of drawing paper, tracing cloth and ferro paper should be avoided. Multiple ferro copying should be avoided by use of scanning from tracing. All field units should be issued soft copies only in PDF or TIF or JPG from scanned drawings. Field units to take colour prints from scanned soft copies for application to CRS's/ General Manager's /PCSTE's sanction.
Chapter 9, Para 9.2.4: Heading shall be replaced as under: “Application to the Commissioner of Railway Safety/ General Manager / PCSTE for sanction for Works”	
Sub item (a) to be replaced by	Applications to the Commissioner of Railway Safety/ General Manager / PCSTE for heading to be sanctioned for carrying out works listed in Para 9.2.1, 9.2.2 shall be submitted in the following manner:
Sub item (b) to be replaced by	If any material deviation from the plan approved by the Commissioner of Railway Safety/ General Manager/ PCSTE which affects the yard layout or signalling and interlocking arrangements or system of train working is found necessary, his prior approval to such deviations shall be obtained with reference to application made initially.
Sub item (c) to be replaced by	The Commissioner of Railway Safety/ General Manager/ PCSTE in according his sanction may or may not propose to inspect the works.
Sub item (d) to be replaced by	If the Commissioner of Railway Safety/ General Manager/ PCSTE decides to inspect the work prior to opening, he will, after inspection in the company of the officers concerned, communicate in writing his sanction to open the work.
Chapter 9, Para 9.2.5: Safety Certificate	
Sub item (a) to be replaced by	If the Commissioner of Railway Safety / General Manager decides not to inspect the work prior to the opening, the Engineer incharge shall submit the Safety Certificate on the prescribed form (Annexure: 9-A2 / Annexure : 9-A12 as applicable) signed by him prior to the opening of works and in case of joint works, signed also by Engineer incharge of other departments concerned.

Sub item (c) to be replaced by	After fully satisfying himself, he shall bring the installation into use by issuing a message in the form given on the sanction Application (Annexure: 9-A1) to the Commissioner of Railway Safety / General Manager with copy to all concerned.
Sub item (e) to be replaced by	The Safety Certificate shall be countersigned by the Officers, who had applied for the sanction of Commissioner of Railway Safety/ General Manager / PCSTE. A certificate from Operating Department, stating that the necessary Station Working Rules have been issued and giving reference to sanction of deviations (if any) from General and Subsidiary Rules, shall also be attached.

Chapter 7, Para 7.1.12 (a): Aspects of Distant Signals

Existing Note under Sub para 7.1.12 (a) (ii) to be replaced by	<p>Note: Under approved special instructions, a colour light Distant signal may be combined with the last Stop signal of a station in rear or with an Intermediate Block signal or with a Stop signal protecting a level crossing. When a colour light Distant signal is combined, (i) with the last Stop signal of a station in rear or (ii) with an Intermediate Block signal or (iii) with a Stop signal protecting a level crossing, arrangements shall be such that the signal shall not display a less restrictive aspect than the stop aspect till Line Clear has been obtained from the station ahead as in case of (i) and (ii) above and until the level-crossing gates have been closed and locked for the passage of trains as in case of (iii) above (Ref: GR:3.07(7), G.S.R. 157(E).-Dated-05-3-21).</p> <p>Provided that, a colour light Distant signal may be permitted to be combined with the last Stop signal of a station in rear or with an Intermediate Block signal or with a Stop signal protecting a level crossing with arrangements as above, by the Sanctioning Authority (in case of item (a) below - Principal Chief Signal and Telecom Engineer of the concerned Zonal Railway, and in case of item (b), (c) and (d) below - General Manager of the concerned Railway) for the purpose of :</p> <p>(a) Interlocking of level crossings outside station limit;</p> <p>(b) Double Distant signalling alongwith corresponding changes at adjacent stations without yard remodeling;</p> <p>(c) Intermediate Block signalling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodeling;</p> <p>(d) Automatic Block signaling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodeling. (Ref: GR:3.07(7), G.S.R. 778(E).-Dated-23-12-24)</p>
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Chapter 7, Para 7.1.16: Combined Signals:

Existing Note under para 7.1.16 to be replaced by	<p>Note: Under approved special instructions, a colour light Distant signal may be combined with the last Stop signal of a station in rear or with an Intermediate Block signal or with a Stop signal protecting a level crossing. (Ref: GR:3.07(7), G.S.R.157(E). Dated-05-3-21)</p> <p>Provided that, a colour light Distant signal may be permitted to be combined with the last Stop signal of a station in rear or with an Intermediate Block signal or with a Stop signal protecting a level crossing with arrangements as above, by the Sanctioning Authority (in case of item (a) below - Principal Chief Signal and Telecom Engineer of the concerned Zonal Railway, and in case of item (b), (c) and (d) below - General Manager of the concerned Railway) for the purpose of :</p> <p>(a) Interlocking of level crossings outside station limits;</p>
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	<p>(b) Double Distant signalling alongwith corresponding changes at adjacent stations without yard remodeling;</p> <p>(c) Intermediate Block signalling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodeling;</p> <p>(d) Automatic Block signaling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodeling. (Ref: GR:3.07(7), G.S.R. 778(E).-Dated-23-12-24)</p>
Chapter 9, Para 9.2.1 : Works Requiring Notice to and Sanction of the Commissioner of Railway Safety	
Existing Para 9.2.1 to be replaced by	<p>Under Section 20 of the Indian Railways Act and Chapter VI, VII of the "Rules for the Opening of a Railway or Section of a Railway for public Carriage of Passengers" the approval of Commissioner of Railway Safety is required for the execution of any work on the open line which will affect running of passenger trains and any temporary arrangement necessary, for carrying it out, except in cases of emergency. The following signal and interlocking works (except for works mentioned in Para 9.2.2), when they are connected with or form part of a Railway already opened for carriage of passengers require the sanction of Commissioner of Railway Safety, before they are commenced or opened:</p> <p>(a) Additions/extensions or alterations to existing Block, Signalling and interlocking installations.</p> <p>(b) Change in block, Signalling and Interlocking scheme.</p> <p>(c) New stations temporary or permanent.</p> <p>(d) Interlocking of catch siding and slip sidings etc.</p>
Chapter 9, Para 9.2.2 : The following works shall, which enhance level of safety, however, do not require the sanction of the Commissioner of Railway Safety:	
Existing Para 9.2.2 to be replaced by	<p>(a) Provision of Telephones at already manned level crossings.</p> <p>(b) Provision of electrical & mechanical lifting barrier including emergency interlocking arrangements, sliding boom at already interlocked Level Crossing Gates.</p> <p>(c) Interlocking of LC Gates within station yard and outside station limits</p> <p>(d) Provision of all categories of track circuits, axle counters including dual detection.</p> <p>(e) Replacement/Modification of signalling assets without any change in the yard layout or signal interlocking scheme either in station or at mid section Level Crossing Gates.</p> <p>(f) Replacement of Block instruments by any other approved type of instrument or provision of block proving through Axle counters or Track Circuiting using existing Block instruments.</p> <p>(g) The replacement of block instrument without any change in the system of block working.</p> <p>(h) Providing Electronic Interlocking/Panel Interlocking/Route Relay Interlocking or alterations there of in Non-passenger Line section.</p> <p>(i) Changing from Control Panel to Control Terminal/VDU in Electronic Interlocking.</p> <p>(j) Provision of Automatic Train Protection (Kavach) system at Station/IBS/LC Gates/ABS huts etc. subject to certification by an independent Safety Assessor. Note: ISA certification is not required for Replacement/Modification of signalling interlocking including yard remodeling if commissioned IR-ATP (Kavach) system exists.</p> <p>(k) Double Distant Signalling alongwith corresponding changes at adjacent stations without yard remodelling.</p>

	<p>(l) Intermediate Block signaling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodeling</p> <p>(m) Automatic Block Signaling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodelling</p>
Chapter 9, Para 9.2.3 :	
Existing Para 9.2.3 to be replaced by	<p>Personal approval of the PCSTE will be required for sanction of the works mentioned at Para 9.2.2 (a) to (j) whereas works at Para 9.2.2 (k) to (m) will require sanction by the General Manager of the zonal railways with no further delegation.</p> <p>PCSTE of Railway shall submit Safety certificates & quarterly statement of all such sanctions accorded by PCSTE / General Manager to the concerned CRS. General Manager/ PCSTE's sanctions are not given in a routine manner but following laid down procedure.</p> <p>It is therefore, suggested that while giving sanctions by General Manager/ PCSTEs, following must be ensured:</p> <p>(a) All relevant documents that are prepared by field units (for submission to CRS for his sanction) for commissioning of the works would be submitted to General Manager/PCSTE for his sanction. This includes Engineering scale/Signalling Plans, SWR diagrams and SWR.</p> <p>(b) Application in format as per Annexure: 9-A8 shall be submitted duly signed by JA grade officer, incharge of the work for applying for PCSTE's sanctions. Similarly, PCSTE's sanction shall also be communicated in the defined format enclosed as Annexure: 9-A9.</p> <p>(c) Application for CSTE's sanction received in Head quarter's office shall be scrutinised as per the check list laid down as Annexure: 9-A10 by Dy.CSTE/Incharge of design or CSTE (planning) and put up for sanction of the PCSTE.</p> <p>(d) Personal sanction of General Manager/ PCSTEs would be required and it shall not be delegated to any lower level.</p> <p>(e) Sanctions would be recorded by General Managers/ PCSTEs as a numbered sanction maintaining a register for the same similar to sanction numbers being maintained by CRS.</p> <p>(f) The validity of the PCSTE's sanction shall be for a period of six months. Revalidation of the sanction after six months may be considered based on valid reasons.</p> <p>(g) For seeking sanction of the General Manager, all necessary documents required including as laid down in 'The Railway opening for Public Carriage of Passengers Rules' as applicable shall be prepared as per Annexure: 9-A1 with required changes in format. This includes Engineering scale/Signalling Plans, SWR diagrams and SWR etc. General Manager's sanction shall be communicated as per Annexure: 9-A1 with required changes in format.</p> <p>(h) For automatic block signalling works, joint inspection report of the section by the Chief Electrical Loco Engineer/Chief Electrical Engineer (Operation), Chief Signal Engineer (CSE) and Territorial Chief Engineer of the zonal railway, shall be made, before sanction to open the work by the General Manager.</p> <p>(i) Application for General Manager's sanction shall be scrutinized as per the check list as used for CRS application and put up for sanction of the General Manager duly accompanied with certificate by PCSTE in the format as per Annexure: 9-A11.</p>

Annexure : 19 A1 (Sheet 2 of 3)**Guidelines for Signal Sighting - For shifting of existing Signals/erection of new Signals****Sr.No.1 : Factors to be considered for Locating a signal****Sub item (i)**

Item (i) of Sub Item (i) to be replaced by	<p>When signals are going to be in close proximity, they may be combined as per Para 7.1.16.</p> <p>(i) Under approved special instructions, a colour light Distant signal may be combined with the last Stop signal of a station in rear or with an Intermediate Block signal or with a Stop signal protecting a level crossing. (Ref: GR: 3.07(7) , G.S.R. 157(E).-Dated-05-3-21)</p> <p>Provided that, a colour light Distant signal may be permitted to be combined with the last Stop signal of a station in rear or with an Intermediate Block signal or with a Stop signal protecting a level crossing with arrangements as above, by the Sanctioning Authority (in case of item (a) below - Principal Chief Signal and Telecom Engineer of the concerned Zonal Railway, and in case of item (b), (c) and (d) below - General Manager of the concerned Railway) for the purpose of :</p> <p>(a) Interlocking of level crossings outside station limits;</p> <p>(b) Double Distant signalling alongwith corresponding changes at adjacent stations without yard remodeling;</p> <p>(c) Intermediate Block signalling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodeling;</p> <p>(d) Automatic Block signaling except in section with Slip siding and Catch siding, alongwith corresponding changes at adjacent stations without yard remodeling. (Ref: GR:3.07(7), G.S.R. 778(E).-Dated-23-12-24)</p>
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Case No. 2022/Sig/33/1/SEM/Misc (eFile 395973)
New Delhi, dated 23.04.2025

श्याम वर्मा /Shyam Verma
कार्यकारी निदेशक/सिग्नल (विकास)
Executive Director/Signal (Dev.)
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FORM XVI B

(Opening for Public Carriage of Passengers Rules)

CERTIFICATE TO BE GIVEN BY HIGHER ADMINISTRATIVE GRADE OFFICER

I do hereby certify:-

(i) that the Maximum Dimensions for railway in India have in every case been worked to, with the exceptions detailed in the statement herewith annexed and also, that the Standard Dimensions will be observed in future, and that no work or structure infringing the Standard Dimensions will hereafter be permitted without the sanction of the Central Government.

(ii) that every coaching vehicle constructed or procured for the use of the railway in mail and passenger trains is, and shall be provided with vacuum or air brake and effective means of communication between passengers, guard and driver.

Note: This item of certificate is not necessary for those light lines on which the use of vacuum or air brake has not been insisted upon.

(iii) that the railway shall be worked on the system known as Absolute Block System or Automatic Block System in accordance with the regulations prescribed in section Chapter VIII or Chapter IX of the General Rules for Railways in India.

Note: In the statement showing the cases in which the Maximum and Minimum dimensions have been infringed full details for each case must be given, in the form attached (Form XVII) with explanation of the necessity for such infringements and a reference to the Authority under which it was permitted. If there have been no infringements of the Maximum and Minimum Dimensions the words, “with the exception detailed in the statement herewith annexed”, should be omitted or struck out.

(iv) that the signaling and telecommunication equipment have been installed in accordance with the approved instructions and they are safe for passing traffic.

(v) that has been delegated to accompany the General Manager on his inspection and all information supplied or engagements entered into by him shall bear my authority.

[Sd/-.....]

Higher Administrative Grade Officer

..... RAILWAY

Safety Certificate

When the General Manager does not inspect the work prior to opening, this certificate must be signed before opening temporary or new works. From, The Divisional Railway Manager/Deputy Chief Engineer (Construction)/Deputy Chief Signal and Telecommunication Engineer (Construction).....Division.

To,

The General Manager,

Description of work

.....
.....

With Reference to Application.....dtd.....sanctioned under General Manager/..... No.....dtd.....to commence and open the above work. Following permanent/temporary work has been done

.....
.....

I/We do hereby certify that, in the work above mentioned:

(i) The schedule of dimensions has not been infringed *except in regard to the items sanctioned under letter * No.....dated.....

(ii) Engineering work has been carried out in accordance with Plan No.....*except in regard to the alterations sanctioned under letter No.....dated.....

(iii) The *Signalling and *Interlocking and *Block Signalling has been carried out in accordance with Signalling Plan No..... and the requirements and instructions laid down in the Signal Engineering Manual have been completed * except in regard to the items sanctioned under letter No.....dated.....

The work has been carried out in accordance with the documents already supplied.

2. A certificate from the Divisional Safety Officers/..... stating that the necessary working rules have been issued and giving reference in regard to sanction to deviation (if any) from General and Subsidiary rules is attached/not required.

* To be scored out if not applicable.

3. I/We hereby certify that on 20..... I/We have carefully inspected and tested the above work and that I/We have satisfied myself/ourselves that it has been properly completed and is in good working 'order' *and that the work can be opened for Public carriage of passengers without endangering the safety of the travelling public, or of the employees of the Railway, subject to the following speed restrictions:

@ Temporary.....Kmph..... due to
.....

@Permanent.....Kmph.....due to.....

4. The work is being opened on.....

@To be scored out if not applicable.

Signature	Countersigned by:
Name	Signature
Assistant Engineer/	Name
Dated.....	Dated.....

Signature	Countersigned by:
Name	Signature
Assistant Signal & Telecommunication Engineer	Name
Dated.....	Dated.....

Other officers concerned	Countersigned by:
Signature	Signature
Name	Name
Designation	Dated.....

No.....Dated.....

To be Countersigned by the officers who had applied for sanction and forwarded to the General Manager - for information:

Forwarded by

Divisional Railway Manager/

Chief Signal & Telecom Engineer/Project or Construction