



INTERNATIONAL LEVEL CROSSING AWARENESS DAY (ILCAD)  
7<sup>th</sup> MAY 2013



# संरक्षा संदेश

• •  
अप्रैल-13 से जून-2013

संरक्षा विभाग  
प्रधान कार्यालय  
चर्चगेट

Chief Safety Officer  
Western Railway  
Churchgate- Mumbai.



### **EDITORIAL**

International Union of Railways observes one day as the international level crossing awareness day (ILCAD). This year, 7th May 2013 was observed as ILCAD. Indian Railways had participated in this global campaign to sensitize road users to increase Safety at level crossings. Myself along with my Colleague officers Sh. Alok Kumar Director safety Railway Board and Sh. Harvinder Singh Sr. DSO/CKP participated in International Level Crossing Awareness Day (ILCAD)-2013 and Round Table Discussions of ILCAD held on 06<sup>th</sup> and 7<sup>th</sup> May -2013 at Geneva , Switzerland.

Safety organization of Western Railway organized public campaigns as directed by Chief Safety Officer on the international level crossing awareness day 07<sup>th</sup> May 2013 at the various places all over the divisions of Western Railway.

On the occasion of "International level crossing awareness day (ILCAD)" on 07<sup>th</sup> May 2013, mass contact campaigns were organized towards enhancing safety awareness of road users, targeting local residents of various villages on Western Railway. On each division of Western Railway Safety teams comprising DRM, Safety officers and safety counselors along with civil defense volunteers visited various stations, Unmanned LCs, MLCs, village panchayats, petrol pumps, bus depots, RTO offices & schools. The road users , drivers, passengers were distributed pamphlets, Safety calendars, Hand bills, note books, caps lucidly displaying safest means of crossing Unmanned Level Crossings. Street plays were also performed on UMLC & Gram panchayats, some under the banner of "Mission to Safe Lives at L.C gates".

I take this opportunity to sensitize our staff to be vigilant and prevent accidents at level crossings by providing the necessary bumps, Road visibility board and all other infrastructure at UMLCs. Loco pilots and Assistant Loco pilots to be cautious and whistle freely while passing UMLCs as this can save many lives.

(Praveen Mishra)  
Chief Safety Officer  
Western Railway

## संपादक मंडल

1. मुख्य संरक्षक - श्री आर सी अग्रवाल महाप्रबंधक
2. मुख्या संपादक - श्री प्रवीण मिश्रा मुख्य संरक्षा अधिकारी
3. संपादक - श्री नोएल स्टीफेंस - उप. मु. सं. अ. (यातायात)  
श्री संजीव अबनवे - उप. मु. सं. अ. (इंजी)  
श्री एस बी कापसे - उप. मु. सं. अ. (यांत्रिक)  
श्री एम वेंकतेश्वर्लू -वरि. सं. अ. (सि एवं दूरसं इंजी)
4. सहायक संपादक- श्री जुड एलदोंस संरक्षा सलाकार (विधुत)  
श्री सुशिल चवण संरक्षा सलाकार (सि एवं दूरसं इंजी)  
श्री बी. एस. मल संरक्षा सलाकार (इंजी)  
श्री अलोक भूषण संरक्षा सलाकार (यांत्रिक)  
श्री मुकेश छत्री (यातायात निरीक्षक)  
श्री सुनील सालेकर (का. अ. संरक्षा)

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No.W 432/6 Vol.IX.

Date : 14.05.2013.

**Sub :- Monsoon Precautions (Track).**

In connection with ensuing monsoon, preparatory works should be started well in advance.

The following instructions are reiterated again for ready reference and for wide circulation to all the concerned staff.

1. All catch water drains and side drains must be cleared of silt, vegetation and other obstructions to ensure free and quick drainage of storm water. The waterway of bridges must be cleared of vegetation and other obstructions. If silting is noticed in some spans, it should be removed to ensure that the full waterway is available for the discharge of floodwater. During desilting, care should be taken to remove the silt only up to the bed level.
2. Protection and river training works must be maintained in good condition and repairs should be carried out wherever necessary. Scour holes should be filled with boulders.
3. The high flood level (H.F.L.) full supply level (F.S.L.) in the case of canals, and Danger level (D.L.) must be painted. The danger level mark shall be painted with a bright red band across each pier adjacent to the abutment so as to be clearly visible to the patrolmen, special watchman and Drivers. Flood gauges shall be painted on important bridges as specified.
4. Water shall not be allowed to stagnate on the track. For this purpose, cross drains should be provided at regular intervals. In yards, cross drains and longitudinal drains and longitudinal drains should be cleared/provided with proper grades.
5. In hilly areas, where there is incidence of boulder falling, a survey should be carried out to locate loose boulders. Such loose boulders should be dropped in a systematic manner.
6. Selection of patrolmen and watchman should be made in accordance with Para 1008 of IRPWM. Intelligent, experienced and trustworthy men should be selected

from the Permanent gangs by JE/SE/SSE (P.way) to work as patrolmen and watchmen preferably those who can read bridge and telegraph post numbers. The duties to be performed by them should be clearly explained to them. The equipment of patrolmen and other watchmen shall be complete in all respects.

7. Spare trolleys should be kept in readiness at the headquarters of the Permanent Way Inspectors and at other stations in the proximity of vulnerable locations. Motor trolleys must be overhauled and kept in fit condition.
8. Rivers in the upstream reaches should be inspected for guarding against possible change in watercourse.
9. **The prescribed reserve stock of boulders, empty cement bags, wire netting and cinder ash query dust should be kept at specified locations for rushing to site, in case of emergency and should be made good, in case of deficiency.**
10. Action should be taken as envisaged in Para 726 (3) in the case of Railway affecting works.
11. The temporary Engineering indicators must be painted and kept ready for use.
12. The rain gauges should be inspected before the monsoon and it should be ensured that they are in perfect working condition.
13. Vulnerable locations / kilometers should be reviewed jointly by the Assistant Divisional Engineer and divisional Engineers on the basis of past history and pre-monsoon inspections and the register of vulnerable locations should be brought up to date. In addition to above, other relevant Paras. Mainly Para 724 to 728 on pre-monsoon precautionary measures should be carefully read and understood by all field staff connected with maintenance of Permanent Way. Instructions on monsoon patrolling are contained in chapter X of P-way Manual. The sections which are normally to be patrolled during monsoon should be identified and noticed by Sr. Divisional Engineer/ Divisional Engineer. He should also prescribe the period of year when normally monsoon patrolling is to be started for every such section, well before the monsoon is set in. The review of patrol charts should also be conducted critically and such sections should also be identified where monsoon patrolling is not considered justified as a regular nature with a view to optimize the use of patrolmen.
14. A certificate should be furnished to this office that the arrangements for monsoon patrolling and for watching vulnerable / breaches locations have been made.
15. Necessary action to avoid track circuit failures, especially during monsoon be taken as per instructions contained under IRPWM Para 279, item No. 7 & 8. The following two items mainly attribute to track circuit failure, requires special attention:
  - a) Inadequate drainage in the track circuited portions and

- b) Ballast launching the bottom of the rail and enough clear space not being available up to the top of the ballast layer.

It is further advised that Sr.DEN/DEN must keep in touch with Sr. DSTE /DSTE on this issue and carry out necessary work wherever required to avoid track circuit failures.

16. In case of flooded causeway / Dips the action as per IRPWM Para.716 must be taken.
17. In the event of abnormal rainfall/storm the instructions stipulated under IRPWM Para . 1001 should be rigidly followed, as reproduced here under – “The mate should, on his own initiative organize patrolling over the length affected, independently of other patrolling, if any being done. This patrol should in case of heavy rainfall, confine its inspection to known points of danger, such as cutting or culverts likely to scour, banks affected by tanks likely to breach and bridge approaches. In case of high winds, the patrolman should inspect the length of track likely to be fouled by falling of tree etc. Arrangements exits with the Meteorological Department of the Government of India for issuing telegrams of warning, wherever storms, gates, or heavy rainfall are expected. On receipt of such information from the Control, the Permanent way inspector will arrange to advise monsoon patrolmen, watchmen gang mates to be extra vigilant and be prepared to introduce patrolling, as necessary”.
18. **Distribution of Patrol Charts:** Requisite nos. of copies of patrol charts should be supplied by the Divisional Engineers to the assistant engineers, Permanent Way Inspectors. The Divisional Operating Manager (for distribution to the control staff), station masters and Foremen of Lobby. The Foreman will acquaint the drivers of trains, when they may expect to pass patrolman if running on time. The task of dispatching patrolman at the right time and signing their patrol book when they arrive at or depart from a station, rest upon the station master/block hut in charge.
19. **Night patrolling during monsoon :** During the monsoon certain section of the railway line, as may be specified, shall be patrolled to detect damage by flood, such as breaches, settlements, slips and scours and immediate action should be taken to protect trains, when so warranted should be resorted. The action to be taken by station master as per G&SR Para Sr. 15.05 (given as under) must be ensured.
- 19.1 Para SR 15.05 (a) if a patrol man on organized patrolling notified to all concerned does not turn up within 15 minutes of his scheduled arrival, the station master will take the following action:
- (i) He must stop all trains proceeding in to the block section and issue caution orders to the drivers, asking them to be alert and observe speed restrictions of 40 Kmph during the day when visibility is clear and 15 Kmph during the night or when visibility is impaired.

- (ii) He must advise the station master at the other end of the section to take similar action and also advise the controller.
  - (iii) He must initiate the action to ascertain the reason for the non-arrival of Patrolman.
- (b) The caution orders referred to under clause (a) (iii) above shall continue to be issued until the patrol man has arrived and reported that the line is safe for passage of trains.
20. Action on receipt of reports of defective track by driver Para 718(2) –
- (a) By Permanent Way Inspector – The Permanent Way Inspector shall –
- (i) Proceed as quickly as possible to site, inspect the length of track reported on and record particulars in detail. Then arrange to rectify the track defect and remove or modify the restriction imposed, as found necessary.
  - (ii) Submit a detailed report to the Assistant Engineer and copy the same to the Divisional Engineer.
- (b) By Assistant Engineer – Whenever possible, the Assistant Engineer should personally examine the track reported on for defects and make a detailed report to the Divisional Engineer.
21. It is to be ensured that patrolmen are performing duties as per IRPWM Para 1010 and action in case of damage be ensured as per Para 1011 of IRPWM. Necessary training & counseling to patrolman for protection of track be organized by PWIs.
22. **Watchman at Vulnerable Locations:** In addition to patrolmen, stationary watchmen be posted at known or likely locations of danger or trouble. The action in this regard for deploying stationary watchman on vulnerable location must have been organized, based on monsoon period of the area.
23. Special precautions when track is submerged – (1) The following precautions shall be observed when the track is submerged.
- (a) In all cases train shall be stopped dead and allowed to proceed at a speed not exceeding 10 Kmph.
  - (b) If water rises over the top of the ballast but is below rail level, the track should be checked before each train, by two men walking abreast one at either end of the sleepers, and only if the track has not been disturbed, should the train be allowed over the track.

When water overtops the rails, the JE/SE/SSE (P.Way) shall pilot the train, after ensuring that the track is safe, by walking over the track and checking by means of probing, subject to depth specified in Para 716 reproduced below not being exceeded. (including CS No. 102 dt. 29.05.07)

Permissible depth of water for passage of trains as per IRPWM Para 716 – In the case of causeway that are flooded and the velocity of current is insignificant,

trains may be permitted to pass when the depth of water above rail level does not exceed the following values, provided in each case Permanent Way Inspectors has satisfied himself by walking over and probing that Permanent Way is intact and in a fit condition.

<b><u>Gauge</u></b>	<b><u>Passenger and mixed trains</u></b>	<b><u>Goods train</u></b>
BG	300 mm	450 mm
MG	230 mm	300 mm
NG	230 mm	230 mm

Necessary advice should be sent by the Permanent Way Inspector promptly to the Assistant and Divisional Engineer, Divisional Railway Manager and Principal Chief Engineer when water rises above ballast level and again when it subsides. This should be followed up by special reports to the Assistant Engineer and Divisional Engineer. Records of such occurrences should be entered in the Permanent Way Inspector's section register.

24. The inspection of patrol books, supply of equipments to patrolman and watchman to be ensured and all Engineering officials will perform the check on night patrolling as per provision of IRPWM Para 1012. In addition to this, all Sr.DENs / DENs will ensure that on the rainy day their entire section shall be covered by one supervisor in either direction for night patrol check / watchmen check by available fastest trains. During this check the deputed supervisor will also note the location of bad running spots and advise to Engg. Control which shall further advise to concern DEN/ADEN/SSE/SE/JE (P.Way) promptly, so that these can be attended as soon as possible.

**Sd/-  
Chief Track Engineer**

## Quizzing with shunting rules –

### A safeguard to human failure

**NAVENDU.B.DUTTA**  
**ADSO-BVP**

For statistical and analysis purposes, the accidents are classified into various categories. Accidents that take place in a yard and do not involve a train are termed as Yard Accidents. All accidents are grouped in sequence and yard accidents are placed below the Consequential Train Accidents & Other Train Accidents in the classification of accidents.

The classification of accidents includes 05 prominent classes i.e. Collision(A-1 to A-5), Fire(B-1 to B-7), Accidents at LCs(C-1 to C-9), Derailments(D-1 to D-6)) and Miscellaneous accidents(E-1 to E-2). Yard accidents falls under categories A-5, B-7, C-9 & D-6 which are at the lowest level of accident categories.

Human element continues to be the major contributing factor to the yard accidents. In the last year, 40 yard accidents occurred in our Railway followed by 12 yard accidents (up to June-13) in the current year, thus, amounting to approximately 03 times higher the total number of other category accidents during the last year. Yard accident that occurs due to human failure causes mainly as a consequence of non-observance of correct shunting rules.

Staff, well conversant with rules and its application in field working, tends to follow rules correctly during shunting operations.

Learning rules is relatively permanent change of behaviour. One can grasp the things to the maximum extent by seeing and retention through discussion. Further, since learning is a continuous process, it must be stimulating and must result in ability to perform. As such, rules pertaining to any subject must be purposeful & make sense to the learner. In this context, quizzing on safety rules is supposed to be a powerful learning tool. Basically, it is designed to test knowledge. It is the set of questions in which the specific knowledge of staff is tested informally or through entertainment.

Apropos to above, a set of questions on shunting rules is prepared for the use of staff responsible for shunting operations and also for the supervisors ensuring safe practices during shunting.

#### **Questions:**

Q.1	'The movement of loco itself or any other self-propelled vehicle for the purpose of attaching, detaching or transfer or for any other purpose may be called Shunting'-Do you agree?
Q.2	'Flat shunting'- What does it mean?
Q.3	'Empty coaching stock can be loose shunted' - Is it correct?
Q.4	Vehicle containing dangerous and inflammable goods loaded or empty must be separated from the Diesel/electric engine by how many Guard wagon?
Q.5	In which Rule book, we find the description of 'prohibition of shunting, special feature, if any' in a station?

Q.6	How many types of Shunt signals are there?
Q.7	When Shunt signal is placed below a stop signal, which light it shows at 'ON' position?
Q.8	What does a Shunt signal indicate at 'OFF' position?
Q.9	State whether the statement is true or false - 'Shunting permitted Indicator is one kind of shunt signal'.
Q.10	State whether the statement is true or false- 'A Shunt signal can be placed below any stop signal of a station'.
Q.11	<p>Fill in the blanks-</p> <p>i. Point indicators used to protect and indicate the position of derailing switches:</p> <ul style="list-style-type: none"> <li>• When the switch is open it shows a --- target by day and a --- light by night in both directions.</li> <li>• When the switch is closed it shows green light by --- in both directions.</li> </ul> <p>ii. Other point indicators:</p> <ul style="list-style-type: none"> <li>• When set for the straight it shows a --- target by day and --- light by night in both directions.</li> <li>• When set for the turnout it shows a --- light by night in both directions.</li> </ul>
Q.12	<p>State whether the statement is true or false-</p> <p>'Use of fixed signals for shunting: Loco Pilots are authorised to pass the Starter in the 'ON' position on hand signal, if,(i) shunting signals are not provided ,(ii) Advanced Starter is provided &amp; the interlocking does not permit the Starter to be taken 'OFF' for shunting purpose'.</p>
Q.13	<p>When a shunt signal becomes defective,</p> <p>a. SM shall post a competent railway servant with hand signal at the foot of the defective signal for displaying hand signals for the purpose of controlling shunting movement.</p> <p>b. A written advice shall be given to the LP to pass the defective shunting signal at 'ON' position.</p> <p>Which answer is correct?</p> <p>i. 'a' only      ii. 'b' only      iii. 'a' &amp; 'b' both      iv. None</p>
Q.14	On double line section which written authority is given to Loco Pilot to shunt in the block section?
Q.15	Correct the statement-'On single line section to shunt beyond first stop signal 'Block Forward'is done''.
Q.16	What is the maximum speed of shunting?
Q.17	Complete the sentence -'During shunting of vehicles containing passengers, live-stock, explosive, dangerous and inflammable goods and tank wagons, speed of shunting operation should not exceed ---kmph'.
Q.18	Tell whether the statement is correct or Incorrect -'Loco Pilot shall depend entirely on signals during shunting'.
Q.19	Correct the sentence- 'During shunting the Loco Pilot shall always obey the hand signal of the person conducting shunting'.
Q.20	'During shunting operations hand signals are used showing white lights during

	night hours'- State 'Yes' or 'No' ?
Q.21	<p>Conducting shunting operation includes assurance that</p> <ol style="list-style-type: none"> <li>Points are correctly set and facing points locked</li> <li>Correct hand signal are shown to the Loco Pilot</li> <li>Correct vehicle is attached or detached</li> <li>Safety rules are observed.</li> </ol> <p>Which answer is correct-</p> <ol style="list-style-type: none"> <li>Only <i>a &amp; b</i></li> <li>Only <i>a, b &amp; d</i></li> <li>Only <i>b &amp; d</i></li> <li><i>All</i></li> </ol>
Q.22	Complete the sentence – 'When shunting is to be done for attaching or detaching coaches of passenger carrying trains the shunting engine must first come to halt at a distance of --- metres from the train'.
Q.23	Complete the sentence –'If for operational reasons any other outgoing/incoming train engine duly piloted, is required to be brought on line occupied by a train/coach(es) carrying passengers, such engine must invariably remain away/stop --- metres short of train/coach(es)'.
Q.24	State whether the statement is true or false- 'In case of shunting over a portion of line on steep gradients, neither isolated nor protected by slip sidings, an engine should be attached towards the falling side of the gradient'.
Q.25	<p>Hand signals are displayed to indicate coupling of vehicles as under-</p> <ol style="list-style-type: none"> <li>By a green and a red flag held above the head and moved towards and away from each other.</li> <li>Both hands raised over the head and moved towards and away from each other.</li> <li>By a green light held above the head and moved by twisting the wrist.</li> <li>By a green flag or one arm moved slowly up and down.</li> </ol> <p>Which answer is correct-</p> <ol style="list-style-type: none"> <li>Only <i>a &amp; b</i></li> <li>Only <i>a, b &amp; d</i></li> <li>Only <i>b ,c&amp; d</i></li> <li><i>Only a, b &amp;c.</i></li> <li><i>None</i></li> </ol>

There may be 'n' numbers of questions on the issue which are expected to be answered by staff involved in shunting operations. As such, repeated interaction, frequent discussion with the staff followed by counselling by objectives is definitely the main area of concentration for refreshing knowledge of staff, thereby, ensuring safe practices during shunting & reducing yard accidents due to human failure.

Answers on page No. \_\_\_\_\_

**Calendar for Monthly Safety Drives for year 2013-14**

**OCT-2013**

<b>Month</b>	<b>Engineering</b>	<b>Mechanical</b>	<b>S&amp;T</b>	<b>Operating</b>	<b>Commercial</b>	<b>Electrical</b>	<b>Security</b>
<b>Oct. 2013</b>	<p>1. Targeting Safety at unmanned level crossing-</p> <p>i) To check &amp; ensure that availability of speed breaker, whistle board, road sign and stop board</p> <p>ii) To check &amp; ensure that adequate visibility for both train drivers and road users at the level crossing.</p> <p>iii) To check &amp; ensure jointly with safety branch that Public campaign through TV, Radio, newspapers, distribution of posters, leaflets, greeting, vehicles stickers, cinema slides, safety seminar in road transport offices with an appeal to road users to observe all precautions embodied in motor vehicle Act and Railway act to cross UMLC is done.</p>	<p>i) To check hand brake of SLR and Brake Van is in working order.</p> <p>ii) Percentage of brake power in the goods train examined in the C&amp;W depots and keep check on the isolated wagons.</p> <p>iii) To check &amp; ensure that Proper procedure for attaching and detaching of locomotive including bankers is being done properly</p>	<p>i) To check and ensure the effectiveness of interlocking of LC gate and checking of all S&amp;T items at LC gate.</p> <p>ii) To check visibility of signals.</p>	<p>i) To check and ensure that all safety equipment must be available at all manned interlocked / non interlocked traffic LC gates as well as stations.</p> <p>ii) To check for proper securing of stabled rolling stock.</p> <p>iii) Availability of Breathalyzer equipment in working condition.</p>	<p>i) To check and ensure that no any explosive inflammable material are available in booking office/Platform /Goods shed</p>	<p>i) To check and ensure that LP/ALP are whistling intermittently right from W/L board till crossing of LC</p> <p>ii) Brake feel and continuity test by Loco Pilot</p>	<p>i) To check and ensure that proper ambush check is done at UMLC gate with Engg./Safety Super visors.</p>

**Nov-2013**

<b>Month</b>	<b>Engineering</b>	<b>Mechanical</b>	<b>S&amp;T</b>	<b>Operating</b>	<b>Commercial</b>	<b>Electrical</b>	<b>Security</b>
<b>Nov-2013</b>	i) To check & ensure that cutting of Tree & bushes of obstructing visibility of signals is carried out periodically.	(i) To check fire hazards in the pantry car and coaches and blockage of the passage due to water package cartoons & other boxes and plastic drums etc.  (ii) To check and ensure that proper security of stabled rakes is done by applying chains and wooden wedges.	i) To check and ensure that proper sealing of S&T equipments like relays in Relay Room, panel, block instruments, HKT box CH box etc. is done.  ii) To check and ensure that all SWR and SWR diagrams are in conformity with the physical layout.  iii) Standard colour coding practice is followed for cables of Point machines	i) To check & ensure availability of VTO & other foggy weather precautions.  ii) Availability of Block and Panel competency certificates.  iii) To check and ensure that all SWR and SWR diagrams are in conformity with the physical layout.	i) Prevention of carrying dangerous and explosive goods/ parcels	i) To check and ensure that LP and ALP will be following proper procedure in foggy weather by extensive counseling by LIs and Officers.  ii) To ensure that mobile phones of LP/ ALP are kept inside the box carried for personal store and remains switched off or in silent mode during footplate duties.	-

Dec-2013

Month	Engineering	Mechanical	S&T	Operating	Commercial	Electrical	Security
Dec-2013	<p>i) To check &amp; ensure that all gatemen at engineering gate are having valid gate competency certificates &amp; also having all safety equipments supplied by Engg. Department and also ensure that proper rules are known to all gate keepers during the foggy weather.</p> <p>ii) Check and ensure proper working of cold weather patrolling whenever required.</p>	<p>i) To check and ensure that proper and valid BPC are available with all the passengers and goods train.</p> <p>ii) To ensure the doors of SLR/VPU / BCNHL Wagons and non driving motor coaches/power coaches are kept in locked condition during run.</p>	<p>i) To check and ensure that refresher courses of signal maintainer /JE/SE/SSE are not due.</p> <p>ii) Working of lever frames with lever locks properly.</p> <p>iii) To check effectiveness of approach locking and track locking.</p>	<p>i) To check &amp; ensure that breathalyzer testing of all passenger and goods trains guards while sign 'ON' and sign 'OFF' duty is being done properly.</p> <p>ii) To check and ensure that the unusual registers are maintained properly and feed back is recorded in targeted time in guard lobby.</p>	<p>i) To check and ensure that all train boarding staff like TTE, staff of pantry car, AC coaches and other staff are conversant with fire extinguisher operation, under gone first aid training and also their duties in case of disasters and accident .</p>	<p>i) To check and ensure that the all necessary checks are carried out by JE / SE / SSE in EMU shed, Electric loco shed &amp; Train lighting depots.</p> <p>ii) Check for the proper driving skill and counsel the Loco Pilots</p>	<p>i) To check and ensure that passenger are not carrying explosive and inflammable articles in trains.</p>

**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
RAILWAY BOARD**

General Manager(S&T)  
All Indian Railways

No.2010/Sig/LX/2

New Delhi, Dt. 23.12.2011.

Sub :- Mitigation measures to minimize detention to trains in case of breakage of booms at interlocked gates in station limits.

Ref :- 1. Board's letter No. 2010/Sig/LX/2 dt. 06.08.2011.  
2. CSE/SWR's letter No.SG/SWR/Railway Board/Vol.XIII dt. 21.09.2011.  
3. CSE/NRs letter No. 312.Sig/0/LC/Pt.VII dt. 03.09.2011.  
4. CSE/NER's letter No.N/225/0LC/Pt.IV/2677 dt. 14.09.2011.

1. Vide Board's letter under ref.1, instructions were issued to Railways to provide Sliding boom barrier (with release of the key of E Type lock after locking) as emergency restoration arrangement. Signals were restricted to only caution aspect.
2. Based on the experiences gained, a few Railways vide letters under ref. 2, 3 & 4, have requested to provide NORMAL aspect of the signal as no additional actionable information is conveyed to the driver of the train regarding the gate condition to ensure safety with the restriction of CAUTION aspect. This will also minimize complexity in circuit, system design with same level of Safety.
3. The issue has been examined in the Board's office and it has been decided that "NORMAL" aspect of the signal as per interlocking may be permitted during use of Sliding Barrier Boom with following arrangements to improve dependability and reliability in operations of sliding boom barrier:
  - a. Fixing of Sliding Barrier Boom shall always be outside lifting barrier (present & future both) to ensure Safety of road users as well as trains.
  - b. Boom should be locked directly by 'E' type lock rather than through chain.
  - c. Stop indicator Board should be Retro Reflective type.

RDSO should be involved in making modifications of Sliding boom barrier. RDSO should carry out its crash testing and also find out the effort required for operating it and force required to break it so that further modifications may be made for its performance reliability improvement.

This has the approval of Board (ML, MT & CRB).

**Sd/-  
(Rajmal Khoiwal)  
Director(Signal)**

C/- Sr.ED(Signal)/RDSO/Lucknow for necessary action.

## **Signal Engineering Manual Part II**

### **11.4 DISCONNECTION OF APPARATUS**

**11.4.1** Each Maintainer shall have in his possession a book of Disconnection Notices - Form S&T/DN. A Maintainer who is in possession of a Competency Certificate cum Training History book only shall independently undertake works necessitating issues of Disconnection Notices.

**11.4.2** Disconnection Notices need not be issued in situations as listed in Annexure-3 provided suitable precautions are taken. In other situations, when it is necessary to disconnect any equipment in his charge for repairs, replacement or adjustment, the Maintainer shall advise the Station Master on duty in writing on Form S&T/DN and obtain the latter's signature before work is started and after it has been completed.

**11.4.3** When it is necessary to disconnect point equipment switches or signals for repairs, replacement or alteration, Warner/Distant and Stop Signals governing the lines in question shall be kept in the 'ON' position and made inoperative until the work is completed.

**11.4.4** The Maintainer must seal the equipment opened by him under his competence.

### **11.5 FAILURES**

**11.5.1** A Maintainer shall attend to all failures in his section promptly proceeding by the first available means on receipt of information. Before taking up work, he shall first obtain failure report/ message from SM/ASM in writing in accordance with provision of G.R.3.68 for each failure recorded in the signal failure register and then issue disconnection notice as per Para 11.4. He shall make every endeavour to rectify the failures expeditiously and take all possible steps to prevent recurrence. If a gear has failed on the unsafe side and the ASM has been unable to put the relevant signal to 'ON', the Signal Maintainer shall take steps to disconnect/disable the relevant signal and bring it to 'ON'.

**11.5.2** All failures which are beyond his competence or control must be brought to the notice of the SSE/SE/JE (Signal) in charge by a message on control phone or by a telegram or by a messenger or personally.

**11.5.3** Record of the date and time of rectification and the nature of the fault removed must be recorded in the Signal Incidence and Inspection Register provided at each interlocked station.

Situations in which disconnection notice need not be issued provided suitable precautions are taken:

**A.3.1 CLEANING AND/OR LUBRICATING /GRAPHITING WITHOUT AFFECTING ANY PHYSICAL ELECTRICAL DISCONNECTION**

- i) Lever frame basement.
- ii) Relay Room & Battery Room.
- iii) Apparatus case/battery boxes/Goomty.
- iv) Lifting barrier mechanism including winch.
- v) Lever lock and circuit controller without opening cover.
- vi) Inspection and cleaning of inside equipment by opening the covers of point machines, signal motors, reversers, apparatus cases and detectors,
- vii) Point, facing point lock and lock bar.
- viii) Cranks, compensators, pullies, wheels, roller stands, counterweights & levers,
- ix) Power supply equipment,
- x) Insulation joints,
- xi) Lens/roundels of signal, point indicator, trap indicator & shunt permitting indicator provided phantom indication to driver of an incoming train is prevented by covering lenses.

**A.3.2 TESTING OF**

- i) Track locking, approach locking, back locking, indication locking, route release.
- ii) Checking various parameters of axle counter without disconnecting the equipment.
- iii) Power supply equipment.
- iv) Lever frame, SM's control frame, signal operation, point operation, level crossing gate & slot circuits.
- v) Point by obstruction test for lock only.
- vi) Checking and testing of track circuit parameters when the track is unoccupied,
- vii) Focussing of colour light signal provided phantom indication to driver of an incoming train is prevented by covering lenses.

### **A.3.3 ADJUSTMENT OF**

- i) Wire transmission except double wire operated point transmission.
- ii) Tightening of terminals using insulated tools without causing any shorts on adjacent terminals.

### **A.3.4 REPLACEMENT OF**

- i) Electric signal lamp provided phantom indication to driver of an incoming train is prevented by covering lenses.
- ii) Bond wire, one at a time,
- iii) Plug-in relay in case traffic condition permits,
- iv) Indicator lamps,
- v) Push button/switch/key of panel,
- vi) Lock bar clips/bar stop, one at a time,
- vii) G. D. tubes,
- viii) Fuse, one at a time.
- ix) Pulley, bottom roller/ top roller in wire and rod transmission one at a time and split pins,
- x) Batteries /cells without affecting disconnection of supply to main equipment.

## WESTERN RAILWAY

### Safety Seminars conducted from April-12 to March-13

- ✧ Since April-13, 293 Safety seminars have been conducted at various locations of Western Railway wherein field Staff, Sr. Supervisors and Officers of all disciplines.

### **A message for Loco pilots**

**“Whistle intermittently at LCs starting from W/L Board till crossing of LC to save the negligent road users” was flashed to all loco pilots as SMS on CUG phone.**

## WESTERN RAILWAY

### SAFETY PERFORMANCE OF WESTERN RAILWAY.

		<b>Consequential</b>
		<b>April to June-2013</b>
Total no. of accidents:		01
(a) Collision		--
(b) Derailment		01
Station		01
Mid-section		--
(c) Manned Level crossing		--
(d) Un-manned Level crossing		--
(e) Fire		--
(f) Miscellaneous Accident		--

### DIVISION-WISE ACCIDENT DURING April to June-2013

Div.	Collision		Derailment		MLC		UMLC		fire		Misc.		Total		
	P	O	P	O	P	O	P	O	P	O	P	O	P	O	T
BCT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BRC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RTM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ADI	--	--	01	--	--	--	--	--	--	--	--	--	01	--	01
RJT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BVP	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TTL	--	--	01	--	--	--	--	--	--	--	--	--	--	--	01

**P – Passenger**

**O- Goods**

**Division wise accident list during April-13 to June-2013**

<b>Sr. No.</b>	<b>Date &amp; Time</b>	<b>Div. /Guage Sec./B.Sec.</b>	<b>Brief particular</b>	<b>Final Cause</b>	<b>Responsibility</b>
1.	<u>23.6.13</u> 6.48	ADI-BG GER-ADI	Derailment of Train No 12901 bet GER-ADI sec of ADI division.	Due to combined defects of concerned coaches and the track	Primary :- Engg. Dept.

## WESTERN RAILWAY

Headquarter Office,  
Churchgate, Mumbai-20

No.T .202/5/(3)(R)

Date :05.06.2013

DRMs BCT BRC ADI RTM RJT BVP  
Advisor Safety Railway Board, New Delhi  
**Director General, Railway Staff College Vadodara**  
Principal, Zonal Railway Training Institute Udaipur.  
Principal, Zonal Electric Training Centre Vadodara.  
Principal, Diesel Training Centre RTM/VTA  
Principal, Signal & Telecom.Training Centre Sabarmati  
Instructor-in-charge, Area Training School (Traffic) PL.  
BL BRC UJN ATC SBI RJT JND  
C/-CRS (Western Circle) CCG.  
C/- CSO PCE CEE CME CSTE CSC CAO(C) CCM CPO FA&CAO  
C/- CPM ADI CPM(RE) ST.  
C/- PS/COM.  
C/- Sr.DOMs/DOMs- BCT BRC RTM ADI RJT BVP for notification to all concerned .

### **Sub : G&SR- Chapter –III – SIGNALS**

Ref (1)Joint Director/Safety Railway Board's letter No. 2009/Safety(A&R)/19/24

Dated 6.12.10 & 27.7.11

(2) Gazette Notification dated 10<sup>th</sup> Nove. 2010.

An Advance Copy of Amendment Slip No.29 to the above mentioned chapter is reproduced below. This amendment should be brought into force with immediate effect, by notification to all concerned

This has the approval of 'Authorized Officer' .

### **The Advance Amendment Slip No. 29, June 2013 to the G&SR- 2008 edition, is given below:**

In **GR 3.07(3) & (4)** at page 15 & 16, the sub-headings 'Attention' and 'Proceed' shall be substituted respectively as under-

#### **3.07 (3) Attention**

**Proceed and be prepared to pass next signal at such restricted speed as may be prescribed by Special Instructions. Train is being received either on Main line and is required to stop at the Starter signal; or on a Loop line required to stop at the Starter signal or to pass run through via Loop Line;**

#### **Proceed**

**Block section ahead is clear, train is to pass run through the station via Main Line;**

#### **3.07 (4) Attention**

**Proceed and be prepared to pass next signal at such restricted speed as may be prescribed by Special Instructions. Train is being received either on Main line and is required to stop at the Starter signal; or on a Loop line required to stop at the Starter signal or to pass run through via Loop Line;**

#### **Proceed**

**Block section ahead is clear, train is to pass run through the station via Main Line;**

**For COM-CCG**

## PRECAUTION TO BE TAKEN

### Efforts to be enhance Safety

#### *Lessons to be learned*

- The video cassette of the serious accidents should be prepared not by taking clippings here and there but in a continuous manner by specifically showing the position of coaches, engine, under gears of coaches & engines, rails, track etc. and the clues which may in turn provide some information to the inquiring authority. Similarly, still photographs should also be taken in a judicious manner.
- Railway should widely publicize, through various media, the dangers associated with carriage of inflammable material in the train to educate and sensitize the travelling public.
- Proper maintenance of the emergency lights in the passenger coaches should be ensured. The emergency light circuit should be modified and push button for testing the working of emergency light provided as per RDSO modification sheet No.RDSO/PE/MS/0047 (Rev.0)-2009 issued by REDSO vide their letter No.EL/6.4.6 dated 27.01.2010.
- Railway should take appropriate measures to implement the ban on smoking in trains under the provisions of Section 4 of the 'Cigarettes and other Tobacco Products (Prohibition of Advertisement and Regulation of trade and commerce, Production, Supply and distribution) Act, 2003 and section 167(2) of the Railways Act.
- All the coaches in passenger trains should be equipped with fire extinguishers of adequate capacity so that in case of fire immediate action can be taken.
- Railway should give serious consideration to provision of a suitable On-Board smoke and fire detection-cum-alarm system to provide an early warning to the passengers and train crew in case of fire in passenger coaches.
- Detailed instructions laying down procedure of inspection of slopes of high cuttings, tools, equipments, safety precautions and safety equipments required for inspection of slopes of high cuttings should be issued from HQrs. These instructions should also be included in Indian Railway Bridge Manual..

- Tracking shoes, binoculars, safety equipments such as helmet, hand gloves etc. should be supplied to the staff of hill gangs and JE/SE/SSE, ADEN & Sr.DENS maintaining ghat sections.
  
- In view of increasing trend of accidents at unmanned level crossings, regular safety drives should be launched by the Railway Administration for the inspection and counseling of road using on unmanned level crossings. Driver of trucks, tractor trolleys etc. should also be checked for their knowledge regarding provision of Section131 of Motor Vehicles Act 1988 and counseled.
  
- Railway administration must ensure and provide security to the gateman posted at all the busy non-interlocked manned level crossing gates.
  
- Breathalyzer and blood tests of all the train crew should be undertaken immediately after the train accidents.

**GRANT OF CASH AWARDS AT GENERAL MANAGER'S LEVEL**

**The efforts contributed by WR staff towards ensuring Safety:**

<b>Sr. No.</b>	<b>Div.</b>	<b>Citation</b>	<b>Name of Awardees</b>	<b>Amount (Rs.)</b>
<b>1</b>	<b>BRC</b>	<p>On 12.3.2013, at about 14.20 hrs Shri John D'mello was working as LP on Train No. 19023 DN. After starting from <i>KIM</i>, he obtained a speed of around 80 kmph and felt a sudden jerk and pull back at KM 293/24. He applied emergency brake and stopped the train with loco No. 22063 at KM294/06-08. On further checking, it was found that the Journal of wheel No.7 has broken. Due to his alertness and prompt action with presence of his mind after feeling jerk &amp; pull back, he averted a major accident on the railways.</p> <p>As above, Shri John Demallo, LP shown exemplary alertness, prompt action and averted accident to the passenger train. He is recommended for a suitable award at GM's level.</p>	Shri John D'mello, Loco Pilot, HQ-BL	<b>Rs. 2500/-</b>
<b>2</b>	<b>BRC</b>	<p>On 20.3.2013, Shri Yogendra G. while working Train No. 12995, noticed hot axle of train No. <i>KVJJOS</i> Goods in opposite direction while passing KSB-KIM. He immediately informed to LP &amp; Guard of <i>KVJJOS</i> &amp; <i>SMIKSB</i>. The train was got stopped at KIM and on further examination hot axle was found in wagon No. SCR 33091116602 BCNHL west side leading trolley, 27<sup>th</sup> from engine. As above, Shri Yogendra G. LP, HQ-BRC has shown alertness and acted promptly in ensuring safety of the train. Hence, he is recommended for an award at GM's level.</p>	Shri Yogendra G. LP HQ - BRC	<b>Rs. 2500/-</b>
<b>3</b>	<b>BRC</b>	<p>On 31.3.2013 at about 12.19 hrs, on duty Pointsman Shri Pratap Lalu noticed smoke in right hand side of wagon No. WCR 311604122456 BCNL 12<sup>th</sup> from engine. He immediately informed to the Dy. SS on duty. The train was got stopped on arrival at CPN at 12.27 hrs. On further examination, hot axle was found in above wagon. The OHE ofUP/DN got switched off and the wagon was detached &amp; kept in L/4. Thus a possible accident was averted.</p> <p>As above, Shri Pratap Lalu, Pointsman HQ-BKRL has shown alertness and acted promptly in ensuring safety of the train. Hence, he is recommended for an award at GM's level.</p>	Shri Pratap Lalu Pointsman HQ-BKRL	<b>Rs. 2500/-</b>

Sr. No.	Div.	Citation	Name of Awardees	Amount (Rs.)
4	RTM	दिनांक 12.02.13 को लोको नम्बर 27455 गाड़ी नम्बर N./GDA रतलाम गोधरा खंड में कार्य करते समय 3.05 बजे मेघनगर अनास के मध्य कि.मी. 571/33-571/31 OHE पोल का Stay Insulator लटक रहा था जिसकी सूचना तुरन्त ADM-MGN एवं ASM-ANS को वाकी टाकी पर दी. लोको पायलोट की सतर्कता के कारण पीछे आने वाली गाड़ियों को सतर्कता आदेश जारी किये गये तथा OHE Failure तथा पेन्टो इन्टेगलमेंट की सम्भावित दुर्घटना से बचाया जा सके.	श्री राशि शी लोको पायलोट गुड्स - अधीन सीटीसीसी-रतलाम	Rs. 2500/-
5	RTM	दिनांक 12.03.13 को लोको पायलोट ने लोको न. 20553 गाड़ी सं. 59388 का संचलन कर रहे थे . बरलई से 09.34बजे प्रस्थान कर जबे समपार फाटक सं. 35 के पास पुहुंचे तो देखा कि गेट मेन ने गेट बंद नही किया है तथा गेट से एक ट्रक एवं एक डम्पर गुजर रहा है . लोको पायलट ने अपना विवेक का इस्तेमाल करते हुये तत्काल इमैजेंसी ब्रेक मारकर ट्रेन को रोकता तथा गेट मेन को बोलकर गेट को बंद करवाया . इसके बाद लोको पायलट ने गार्ड से ऑल राईट मिलाकर वहाँ से प्रस्थान किया । लोको पायलट द्वारा की गई उक्त कार्यवाही उसके सतर्कता एवं सजगता का परिचय देता है तथा इनकी सतर्कता तथा सजगता के कारण एक गंभीर दुर्घटना को बचाया जा सका .	श्री जानकी लाल के. लोको पायलोट , मेल - अधीन सीटीसीसी-उज्जैन	Rs. 2500/-
6	RJT	On 21.01.13 at 08.036hrs. T.No. 19570 DN exp. Ws passing run through JALD station, a severe brake binding was noticed by him in coach No. GS 114048. He exhibited danger signal to LP and Guard to stop the train at JALD. Train stopped and coach was attended and set right by LP & Guard. The extra vigilance of him averted the untoward incident of flat tyre and extensive damage to track. By the above act he had saved the administration from the loss of damaged to assets.	Shri Gyanesh Meena, SM-JALD	Rs. 2500/-
7	RJT	On 03.01.2013, he noticed rail fracture at Km. 690/-7 bet. DL-LXR, as per his information train can not pass. T.No. 19005 down stopped at DL and detained attended by PWI-WKR at LXR. Imposed SR 10 kmph at 09.55hrs. T.No. detained for 17" at DL and 13" bet. DL-LXR.SR 20kmph relaxed at 11.20hrs. Due to prompt action and alertness of him saved the major incidence.	Sh,Alibhai Gatkeeper - THAN	Rs. 2500/-
Sr. No.	Div.	Citation	Name of Awardees	Amount (Rs.)
8	RJT	On 25.02.2013 while working T.No. 16773 he felt abnormal jerk at Km 752/4-6 in KHDI-RJT section. He stopped the train KHDI and informed to on duty ASM. On inspection by on duty P'man -KHDI, glued joint was found broken at above location. Necessary CO was imposed by sectional PWI. Thus by alertness of LP a major disaster was averted.	Sh.Govind S LP-HXP	Rs. 2500/-
9	RJT	On. 21.02.2013, he detected a Rail Fracture at Km582/2-3 bet. SR-BMM section. He stopped	Sh Kehar Vera Keyman- SUNR	Rs. 2500/-

		the train 12971 by showing danger signal and Gangmate imposed SR 20kmph. He averted a possible disaster by his alertness and presence of mind.		
10	RJT	On 21.03.2013 at about 06.40 a.m. a major train accident was averted in Bhaskarpura – Sabli Road section if Rajkot division when train No. 22908 up was promptly and effectively controlled by LP Shri M.B. Zala(HQ-RJT) and ALP Shri Rajendra Harde(HQ-RJT) when they observed truck No. GJ-13/4040 infringing at work site.	Shri M.B. Zala LP /RJT	Rs.5,000/-
			Shri Rajendra Harde ALP /RJT	Rs.5,000/-
11	BRC	On 07.4.2013 Shri Hari Madia noticed smoke in wagon No. BLCL 61250932237 while passing CPN & he immediately informed to the SM on duty. The train was got stopped at next station and affected wagon was detached & train further proceeded.	Shri Hari Madia PP CPN	Rs.2500/-
12	ADI	On 21/04/13,one Tanker loaded with chemicals struck on Dn line at LC 29C. Sh. Moti Sada working as Gateman immediately informed to SM/Charodi who has already given line clear to Goods train. Sh. Moti Sada has not given the gate signal and put Banner/Red lamps across the line. Train was stopped before Gate signal	Shri Moti Sada. Track Man /VG	Rs.2500/
13	RJT	On 22/04/13, while working train. He noticed one truck was passing at UMLC 75 bet. LUN-NLK. He immediately applied emergency brakes and stopped train to avoid unusual happening.	Sh. Rajendra Bhatt, LP(Goods)/ SUNR	Rs.2500/
14	BVP	On 27/04/13, While approaching UMLC No.85/C bet. VJD-GKED, he noticed one JCB stopped on track near UMLC without observing incoming train. He immediately applied Emergency Brakes and train was stopped just before obstruction.	Pratap B. LP(G)/ Botad	Rs.2500/

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### **Answers of question no.'1' to '26':**

Question no.	Answer
Q.1	Yes.
Q.2	Separation of vehicles in an ordinary yard by continuous forward and backward engine movements.
Q.3	No.
Q.4	At least One.
Q.5	Station Working Rule.
Q.6	Three.
Q.7	No light.

Q.8	Proceed with caution for shunting.
Q.9	False
Q.10	False.
Q.11	<ul style="list-style-type: none"> <li>i. <ul style="list-style-type: none"> <li>• Red, Red</li> <li>• Night</li> </ul> </li> <li>ii. <ul style="list-style-type: none"> <li>• White ,White</li> <li>• Green</li> </ul> </li> </ul>
Q.12	True.- along with shunting memo.
Q.13	iii.
Q.14	Shunting Order (T-806)
Q.15	On single line section to shunt beyond first stop signal 'Block <b>Back</b> is done.
Q.16	Not exceeding 15 kmph.
Q.17	8.
Q.18	Incorrect.
Q.19	'During shunting, <b>whenever necessary</b> the Loco Pilot shall <b>also</b> obey the hand signal of the person conducting shunting'.
Q.20	No.
Q.21	ii.
Q.22	20 Mts.
Q.23	50 Mts.
Q.24	True.
Q.25	iv. <i>Only a, b &amp;c.</i>