

# SOUTH WESTERN RAILWAY

HQrs' Office,  
Safety Branch,  
HUBBLI  
Dt: 16<sup>th</sup> July, 2003.

No.T.41/LC/Policy.



## SAFETY CIRCULAR NO.1

### FUNCTIONING OF MANNED & UNMANNED LEVEL CROSSING GATES

TO  
**DRMs/UBL, MYS & SBC**

On going through the latest reports on Accidents at Manned and Unmanned LC Gates one has to think seriously about the Gravity of the Accidents. A keen appreciation of the figures given below will corroborate the facts stated above .

| <b>Accidents at Manned LC Gates</b>   | <b>Casualties</b>          |
|---------------------------------------|----------------------------|
| 4 % of all the Accidents              | 9 % of all the Casualties  |
| <b>Accidents at Unmanned LC Gate.</b> |                            |
| 9 % of All the Accidents              | 37 % of all the Casualties |

Above figures accrue to 46% of all the casualties and 13 % of the accidents on Indian Railways ( White paper on Safety on Indian Railways submitted to Lok Sabha in April 2003 )

Considering the seriousness of above mentioned figures, it becomes mandatory for all of those in the official rung responsible for upkeep of the LC Gates to bestow maximum efforts to see that the Manned and Unmanned LC Gates are maintained to a very high standard and utmost precautions to be taken for prevention of LC Gate accidents.

#### **(A) Unmanned LC Gates**

[1] **Visibility** : Visibility, being the first and foremost Safety aspect plays important role in avoiding Accidents at LC Gates. 80% of Accidents in

Unmanned LC Gates have occurred where visibility was clear. For Road users the visibility is reckoned from a point 5m away from centerline of track on both sides.

Visibility on all the four sides to be minimum of 600m for passage of Rail traffic at maximum of 100 KMPH speed. All out efforts to be put in to achieve 600 m visibility at all the Unmanned LC Gates. There is no dearth of funds for Safety works. As such at no point economy should come in the way of ensuring Safety. If on any account, Visibility for road user gets reduced to less than 600 m, suitable SR to be imposed as per Railway Board Guidelines issued vide No. 95/CE-I/LX/44 dated. 27/9/02 as under:-

| <i>Visibility in Meters</i> | <i>SR to be imposed in KMPH</i> |
|-----------------------------|---------------------------------|
| 600                         | 100                             |
| 550                         | 90                              |
| 500                         | 80                              |
| 450                         | 75                              |
| 400                         | 65                              |
| 350                         | 55                              |
| 300                         | 50                              |
| 250                         | 40                              |
| 200                         | 30                              |
| 150                         | 25                              |
| 100                         | 15                              |

**[2] Provision of Warning Boards**

**[a] For Drivers of trains**

W/L bilingual boards painted with luminous paint to be erected at a minimum distance of 600 m from the LC Gate in up and down directions. This distance may be increased for better visibility of boards in areas with sharp curves, cuttings etc. Wherever visibility is clear on single line sections, W/L Boards should be erected at 350 Metres instead of 600 Mtr. distance adopted at present vide Rly. Bd's letter No.2003/CE/1/LX/59 dt.11.6.2003.

**[b] For road users**

1. A road sign with proper illumination to be exhibited at the end of Railway Boundary on either side.

(2)

2. A stop Board to be provided on either side of the LC Gate at a distance of 5 m from centerline of track. The stop Board should be painted with red letters on white Back ground. The paint should be of luminous type. The Board should contain the legend " STOP LOOK FOR TRAINS BEFORE CROSSING " in three languages viz., English, Hindi and the local language. The Board should be reflecting type.

**[c] Road Surface**

Road surface at the unmanned LC Gates should be such that road vehicles passing through the U/M LC Gate should quickly pass through without any delay. Nothing should stop the road vehicle between gateposts. If the road is black topped out side Railway boundary, The road should be black topped with in Railway boundary even. If the road is metalled or just mud road then between gate posts and 5m on either side concrete blocks should provided. The road should be maintained level between the gate posts and 8m beyond followed by flatter slopes .

**[d] Speed Breakers**

Speed Breakers of standard design should be provided on either side for road users. A warning sign board should also be provided to alert the road users approaching the speed breakers.

**[3] Census of Road and Rail traffic at Level crossings, manned/unmanned.**

It is essential to conduct census of <sup>all</sup> manned & unmanned LC Gates as per revised guidelines issued recently vide Rly. Bd's letter No.2003/CE/1/LX/59 dt.11.6.2003.

Periodical census of all level crossings manned/unmanned should be conducted atleast once in three years for seven days to review the classification in the case of manned level crossing and the need for manning in the case of unmanned level crossings. In the case of manned level crossings having total Train vehicle units more than 75000 the census is to be conducted once in 2.5 years with a view of providing grade separators. Census of the rail and road traffic at the unmanned level crossings shall be carried out by multi-disciplinary inspectorial team instead of the Sr.Section Engineer (P.Way) of the section alone. The team shall comprise of representatives of Civil Engineering, S&T and Traffic Deptts.

**[B] Manned LC Gates**

It is a general thinking that once we man the LC Gate there will not be any accidents. Contrary to this concept 4% of all the Accidents on IR occurred at Manned LC Gates resulting in 9% of causalities. As such Safety aspects at Manned LC Gates shall be maintained to "fail proof" level.

**[i] Equipments :** Detonators, fusees, H.S Flags, H.S Lamps, and warning hooter should be in "ready to use" condition. The barrier, emergency Safety chains and locking arrangements should be well maintained. The signaling system existing at the gate should be maintained well. The gate premises should be brightly illuminated. The stop board on the barrier should be provided with corex reflectors. Boom locking arrangement should be provided to lifting barriers.

**[ii] Road surface :** The road surface within the Railway boundary should be maintained to very high standard. Rumble strips of standard design should be provided on the road on either side of the LC Gate. Road signs should be provided on either side of the gate to warn the road users that they are approaching a Railway level-crossing Gate. The road signs should be provided with reflectors.

**[iii] Personnel at the gate :** The gate man deputed to perform duties at the gate should be intelligent, physically fit, mentally sound and he should possess sound knowledge of gate working rules and emergency protection. He should be free from addiction to Alcohol. He should be sent to PME and RC on the due dates. He should possess Gate Competency Certificates while on duty. The Gateman should be literate to exchange PNs.

**[iv] Telephone communication :** Telephone communication should be provided between the manned level crossing and the nearest Station/Block Hut to enable exchange of Private numbers.

**[C] Track structure at the level crossings.**

**[i]** Rail joints should be avoided within the level crossing, in check rails and running rails, and three metres on the either side.

**[ii]** In the case of SWR, no fishplated Joint should fall within six metres from the end of the level crossing.

**[D] Height Gauge :** Height gauges should be erected on either side road approaches in electrified areas.

[E] **Manning of unmanned level crossings.**

Revised Priority categories for manning of unmanned Level crossings is as follows vide Rly.Bd's letter No.2003/CE/1/LX/59 dt.11.6.2003.

**Category I** - Clear visibility level crossings where TVU is more than 6000 AND Road Vehicles > 180.

**Category II** - Restricted visibility level crossings where TVU is more than 6000 AND Road Vehicles > 120.

**Category III** - Restricted visibility level crossings where TVU is between 3000 - 6000.

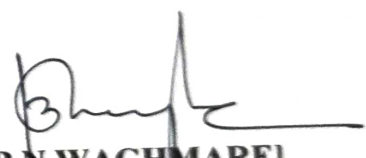
If any unmanned level crossing gets involved in more than 3 accidents in 3 years, it should be manned immediately irrespective of the category to which it belongs.

[F] **Specifications for LC Gates.**

All the provisions laid down in Annexure 9/1 to para 304 of IRPWM (1986) should be observed at all the LC Gates.

(i) **Fencing to be provided.**

|                                                                | <b>Special class A&amp;B class LC gates.</b>                        | <b>C&amp;D class LC Gates.</b>                                         |
|----------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------|
| Fencing on lines which are not fenced throughout their length. | A minimin length of 15 Mtrs. From each Gate post parallel to track. | Fencing to be provided for LC Gates within station limits for 15 Mtrs. |

  
[B.N. WAGHMARE]  
CSO/SWR/UBL.

C/- DSOs/UBL, MYS & SBC : for inf. & n.a.

C/- DRMs/UBL, MYS & SBC : for inf. & necessary action please.

C/- All PHODs/HODs of SWR/UBL :

C/- Secy. to GM : for kind information of GM please.