
The General Managers,
All Indian Railways.

Re: Typical signalling arrangement for interlocking of level crossing gates outside station limits.

Board’s orders on item 582 of the 34th signalling and interlocking Standard Committee(1961) recommendations were communicated by DG RDSO under his letter No.ST/G/PTP dt.2.11.62 and drawings No.RDSO/1435-1439 showing the typical arrangements,were also sent.

The typical arrangements shown in these drawings are as under:-

i) MAUQ Territory – On both single and double lines, a distant and stop signals are provided, the stop signal is provided with a “G” marker and is located at 6—ft from the level crossing and the distant signal is located at 2200 ft(minimum) from the stop signal.

ii) Two aspect lower quadrant territory –
   a) Single line sections with speeds of 45 m.p.h. and below-one stop signal with a ‘G’ marker at 1320 ft.from the level crossing with a warning board at 3170 ft.in rear in either direction.
   b) Single like section with speed higher than 45 m.p.h. – One stop signal with a ‘G’ marker located at 600 ft. from the gate with a Warner signal located at 2200 ft(minimum) in rear of the stop signal in either direction.

3) On reconsideration of the case, it has now been decided that the following arrangements only should be catered for at level crossing gates.
   i) Multiple aspect territory both colour light signalling and upper quadrant.
      a) Existing installations: Stop signal at 180 metres from the gate and a distant signal at 670 metres or 960 metres where already so provided in rear of the stop signal.
      b) Future installation: Stop signal at 180 metres from the gate and a distant signal at 1 Km in rear of stop signal.

ii) Two aspect territory. A stop signal at 400 metres (1320 ft.) from the gate and a sighting board at 960 metres(3170 ft.) in rear of the gate signal. It is not necessary to cater for two conditions of speeds e.g. above 45 m.p.h. and below 45 m.p.h. in two aspect territory as most of the main line sections with speeds above 75 m.p.h. are being provided progressively with multi-aspect signalling.

4. This disposes of Central Railway’s letter No.Rech.34/LOG/117 dt.27.2.68.

The receipt of this letter may please be acknowledged.

Sd/-
(J.N.Sikka)
Dy.Director Signals,
Railway Board.

Copy to all concerned.
*Instructions modified vide
Bd’s letter No.68/W3/5/4 dt.25.5.79 & 20.9.80.
The General Managers,
All Indian Railways.

Re: Safety Devices at Level Crossings.
Ref: Board’s letter No.
i) 60/W3/AF/2 dt. 12.1.60
ii) 60/W3/SG/2 dt. 28.9.60
iii) 59/W3/TN/38 dt.22.5.61
iv) 62/W3/SGA/13 dt.28.8.62
v) 62/W3/SG/15 dt.26.3.64
vi) 63/W3/SG/88 dt.2.8.66
vii) 63/W3/SG/88 dt.23.11.65
viii) 62/W3/SG/115 dt.12.4.65
ix) 63/W3/SG/88 dt.12.4.67
x) 68/Safety-11/29/4 dt.17.5.68
xi) 63/W3/SG/88/1 dt.18.7.69
xii) 63/W3/SG/LX/1 dt.19.9.69
xiii) 69/W3/SG/LX/1 dt.14.1.70
xiv) 62/W3/SG/LX/1 dt.14.5.70
xv) 62/W3/SG/15 dt.15.9.70
xvi) 63/W3/SG/88 dt.16.11.70
xviii) 77/W3/SG/LX/2 dt.28.12.77.

In the past Ministry of Railways have issued a number of instructions for Interlocking, Provision of Telephone and approach Operated Warning Devices at level crossings. All these instructions have been reviewed in the Safety and Signalling directorates of this Ministry in the light of the recommendations made by Commissioner of Railway Safety and various Accident Enquiry committee from time to time. Taking into account the progress already made in the implementation of the earlier directives, instructions for the provision of safety devices at each type of Level Crossings are consolidated below for information and necessary action.

2. “Special” Class Level Crossing (These shall be normally kept open to road traffic)

2.1 Within Station Limits.

(a) Should be interlocked.
(b) Telephone communication with ASM’s office should be provided.
(c) Where the Level Crossing Gate is operated from a place other than the place of operation of the Signal protecting the gate, arrangement of interlocking should be

(d) such that the last operation before taking ‘OFF’ the signal should be the closing of the gate and the first operation after the train has cleared the Level Crossing and the signal has been put back to ‘ON’ position should be the gate by the gateman.

(e) Should be equipped with Lifting Barriers.
2.2 Outside Station Limits:

a) Should be interlocked.
b) Telephone communication with ASM’s office of adjoining station should be provided.
c) Warning Bell operated by the approach of a train should be provided.
d) Should be equipped with Lifting Barriers.

1. ‘A’ Class Lever Crossings: (These shall be normally kept open to road traffic).

1.1 Within Station Limits:

a) Should be interlocked
b) Telephone communication with ASM’s office should be provided.
c) Where level Crossing Gate is operated from a place other than the place of operation of the signal protecting the gate arrangements of interlocking should be such that the last operation before taking ‘OFF’ the signal should be closing of the gate and the First Operation after the train has cleared the Level Crossing and the signal has been put back to (ON position should be the opening of the gate by the gateman.
d) Should be equipped with Lifting Barriers.

1.2 Outside Station Limits:

a) Should be interlocked.
b) Telephone communication with ASM’s office of joining station should be provided.
c) Where level Crossing Gate is operated from a place other than the place of operation of the signal protecting the gate arrangements of interlocking should be such that the last operation before taking ‘OFF’ the signal should be closing of the gate and the First Operation after the train has cleared the Level Crossing and the signal has been put back to (ON position should be the opening of the gate by the gateman.
d) Should be equipped with Lifting Barriers.

2. ‘B’ Class Level Crossings (Those Level Crossings both with station limits and outside station limits, falling on sections provided with systems of train working other than automatic signalling/APB).

These shall be normally kept closed to road traffic.

2.1 The safety side to be provided under this condition are given below:

2.1.1 Within Station Limits:-

(a) Telephone communication shall be provided with the ASM’s Office.
(b) Lifting Barriers shall be provided.
(c) In suburban sections, the level crossings shall be interlocked.
(d) On non-suburban sections, where the gates are operated by Cabin staff of Cabins adjoining the level crossing, the Level crossings should be interlocked with the station signals.

2.1.2 Outside Station Limits.

a) Telephone communication shall be provided with the ASM of adjoining station at all the level crossing gates on Rajdhani Express Routes and on suburban sections. On other routes such communication shall be provided at these level crossing which are situated in curves obstructing the view of the level crossings from approaching trains and vice-versa.
b) Lifting Barriers shall be provided.
c) In suburban Sections the Level Crossings shall be interlocked.

2.2 An immediate census of traffic shall be taken in respect of these ‘B’ Class Level Crossings Gates which are at present kept normally open to road traffic. A such of those level crossing gates where the traffic density warrants upgradation of the level crossings to either ‘A’ class or ‘Special’ class, facilities as contained in Paras 2 & 3 above may be provided at these level crossing gates. Such of these level crossings which, did not warrant upgradation to ‘A’ class or ‘Special’ class as a result of the census, should have their gates normally kept closed to road traffic and facilities provided as indicate in Para 4.1 above.

3. ‘C’ Class Level Crossings(manned): (These Level Crossings both within Station Limits and outside station limits, fall in on sections provided with a system of Train Working other than automatic signalling/APB.

These shall be normally kept closed to road traffic.

3.1 The safety side to be provided for such level crossings are indicated below:

3.1.1 Within station limits:

(a) Telephone communication with the ASM’s office shall be provided.

(b) Where the gates are operated by Cabin staff of Cabins adjoining the Level Crossing the Level crossings, shall be provided with Lifting Barriers and interlocked with the Station signals.

3.1.2 Outside Station Limits:

(a) Telephone communication shall be provided with the ASM of adjoining station at all the level crossing gate on Rajdhani Express Routes and suburban sections. On other routes such communication shall be provided at those level crossings which are situated in a curve obstructing the view of the level crossings from approaching trains and vice-versa.

1.2.1 An immediate census of traffic shall be taken in respect of those ‘C’ class Level Crossing Gates which are at present kept normally open to road traffic. At such of those level crossing gates where the traffic density warrants upgradation of the level crossing to either ‘A’ class or ‘Special’ class immediate steps should be taken on upgrade them. Pending the formal upgradation of such gates to ‘A’ class or ‘special’ class provided at these level crossing gates. Such of these level crossing which do not warrant upgradation to ‘A’ class or ‘special’ class as a result of the census should have their gates normally kept closed to road traffic and facilities provided as indicated in para 5.1 above.

3.2 In case of Level Crossings falling on suburban Section they may be considered for upgradation to ‘E’ class in the event of their not qualifying for upgradation to ‘special’ or ‘A’ class and when so upgrade to ‘B’ class facilities as indicated in Para 4 shall be provided.

3.3 Attention is invited to Board’s letter No.78/W1/LX/106 dt.29.12.78 wherein the periodicity of conducting census cum job-analysis at level crossing gates have been given for assessing the need to upgrade and or man such level crossings. Wherever it is decided to man an existing unmanned ‘C’ class level crossings as a result of such a review, facilities as indicated in para 5.1 shall be provided.

6. In all cases where telephonic communication with ASM’s office, has been stipulated connection may be given with the Switchman in the adjoining Cabins, where so required under local operating conditions.

7. Level Crossing both within and outside station limits falling on sections provided with Automatic Block signalling/APB.
The Level crossing Gates situated on sections provided with automatic signalling/APB shall be interlocked irrespective of the classification. In addition, they shall be provided with Warning Bells operated by the approaching trains. Besides, approach locking should be provided on the control lever of the level crossing so that only when the portion of the track/tracks between the level crossing and the signals protecting the level crossing are clear, can the gates be opened (as already stipulated in board’s letter No. 77/W3/SG/LX/2 dt. 28.12.77).

8. These instructions superseded all the previous instructions issued in the past on the subject. Wherever facilities, more than the minimum specified above, have already been provided the same shall be retained.

9. Safety Devices at the level crossings may be planned on this basis on your railway.

10. Please acknowledge receipt of this letter.

*Also please see Board’s circular
No.83/WG/EG/16/1-Pt.
Dt.26.2.83.

Sd/- K. Subramanyan,
Addl. Director(Signals)
Railway Board

No.77/W3/SG/LX/2
New Delhi, Dt. 16.3.1979

Copy to G.M.(S&T)/Construction and others.
SAFETY DEVICES TO BE PROVIDED AT LEVEL CROSSING
( Board’s letter No.77/W-3/SG/LX/2 dt. 16.3.79 – summary in tabular form)

Within Station Limits.

<table>
<thead>
<tr>
<th>Class of level Crossing</th>
<th>Interlocking</th>
<th>Approach locking of gate Control level of Level crossing</th>
<th>Telephone Communication With ASM’s Office of Adjoining stn. Switchman of Adjoining cabin</th>
<th>Warning bell operated by The approach Of a train</th>
<th>Provision of Lifting Barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special class (Normally open to road traffic)</td>
<td>Compulsory</td>
<td>Compulsory in Auto sections And APB section</td>
<td>Compulsory from place of Operation of Gate to place Of operation Of signals/ASM’s Office.</td>
<td>Compulsory in suburban automatic And APB Signalling sections</td>
<td>Compulsory</td>
</tr>
<tr>
<td>‘A’ class (Normally open to road traffic)</td>
<td>Compulsory</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
</tr>
<tr>
<td>‘B’ Class *(Normally closed to road traffic)</td>
<td>Compulsory On – a) Suburban Sections, b)Automatic Signalling &amp; APB territory b) Where the c) Gate is worked by cabin staff</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
</tr>
<tr>
<td>’C’ Class *(Normally closed to road traffic)</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
</tbody>
</table>

In case of ‘C’ Class level crossing falling on suburban sections these gates may be considered for upgradation to ‘B’ Class in the event of their not qualifying for upgradation to ‘Special’ or ‘A’ class and when so upgraded to ‘B’ Class facilities as indicated for ‘B’ Class shall be provided.

*If some ‘B’ Class level crossing gates are at present kept normally open to road traffic, an immediate census of traffic shall be taken for those gates. At such of those gates where the traffic density warrants upgradation of the gates to either ‘A’ class or ‘Special’ Class may be provided.
GOVERNMENT OF INDIA (BHARAT SARKAR)
MINISTRY OF RAILWAYS (RAIL MANTRALAYA)
RAILWAY BOARD

No: 82/W1/IX/25, New Delhi, dt. 26.7.82.

The General Managers,
All Indian Railways.

Reg: Manning of unmanned level crossings.

With a view to improving safety of rail and road traffic at level crossings, Board have decided to accelerate the pace of Manning of level crossing and to take up a phased programme Manning the unmanned level crossings where buses regularly ply. Similarly in case of level crossings situated close to the cabins having vehicular traffic they have decided to provide lifting barriers with interlocking operated from cabins.

2. Board, therefore, desire that Railways should take the following action immediately:

(A) Providing lifting barriers operated from cabins in case of level crossings situated near cabins within station yards.
   (i) In response to the Board’s message, the Railways have indicated that there are 1,009 such level crossings as per the details given in Annexure ‘A’. Board have decided that provision of lifting barriers operated from cabins in case of 150 level crossing as per the distribution given in Annexure ‘A’, should be sanctioned by Railways in 1982-83 as out of turn works under their power of sanction. In case the proposals are beyond their power of sanction they should be submitted to the board for out of turn sanction. The funds required during 1982-83 should be indicated at the time of august Review and Revised Budget.
   (ii) For the Works Programme of 1983-84, Railways should propose the provision of lifting barriers as indicated in Annexure ‘A’ in the preliminary Works Programme.
   (iii) Preference should be given for Group ‘A’ and ‘B’ routes on broad gauge and trunk routes on metre gauge.

(B) Manning of unmanned level crossings where buses ply:
   (i) In reference to the board’s message, the Railways have indicated that there are 1953 such unmanned level crossings. Board have decided that 212 level crossings, as per the distribution given in Annexure ‘B’ should be taken up for Manning as out of turn works under ACSPF(b), fully chargeable to the Railway in 1982-83. Estimate for these works should be sanctioned by the Railways under their own powers. In case proposals are beyond the Railway’s power of sanction, Board should be indicated at the time of August Review and Revised Budget.
   (ii) For 1983-84 Works Programme, work irrespective of 300 level crossings as per the distribution given in Annexure ‘B’ should be included in your Preliminary works Programme.
   (iii) Preference should be given to Group ‘A’ & ‘B’ routes on B.G. Trunk routes on M.G.
   (iv) Railway should similarly take up Manning of 100 level crossings every year, the initial cost being got deposited from State Government which shall be reimbursed from RWSP, subject to the amount being available to the credit of the State Government. For this purpose State Govt. should be approached. A letter is also being addressed to the State Government by Ministry of Railways, in this connection.

1. In regard to creation of posts for Manning of level crossings, attention is invited to Member Staff’s D.O. letter No.E(G)82/EC-2-2 dt. 19.6.1982 addressed to the General Manager, S.E. Railway and copy to other Railways under which for new plan assets and new activities, additional posts required can be created and filled up by suitable redeployment of existing staff or matching surrender, so that extra budgetary burden is avoided. In cases where Railways are not able to create additional posts of Gateman required for Manning level crossings by redeployment, as stated above, the Railways may submit their proposals to the board, duly concurred by FA & CAO and with the personal approval of G.M.
2. This letter is being issued in consultation with Establishment and Finance Directorates of the Board.
3. The receipt of this letter may please be acknowledged.
Enclo: Two Annexure.

Sd/-

(Tirath Prakash) Director, Civil Engineering
Railway Board.

Copy to: All concerned.
No: 77/W1/LX/16, New Delhi, dt.26.2.83.

The General
All Indian Railways

Sub: Working at Level Crossings.

Board, vide their letter No.77/W-3/SG/LX/2 dt.16.3.79, had issued consolidated instructions for the safety devices to be provided at the Level Crossings of different classifications. As per these instructions only Special and ‘A’ Class Level Crossings which are interlocked and protected with Signals could be allowed to have normal position open to road traffic. All ‘B’ and ‘C’ class Level Crossings were required to be normally kept closed to road traffic. After the issue of these instructions Various Railways have represented to the board that strict compliance of these directives is not practically possible, as due to financial constraints it has not been possible to take up interlocking of ‘B’ and ‘C’ class Level Crossings having heavy traffic and their consequent upgradation of ‘A’ class to keep normal position of gate open to road traffic.

2. Board have, therefore, reconsidered the issue and have decided that in exceptional cases ‘B’ and ‘C’ class non-interlocked level crossings having heavy road traffic can be permitted to have their normal position open to road traffic provided the following conditions are satisfied :-

i) The level crossing should not be on a suburban section.
ii) The section concerned should not have automatic block signalling or automatic permissive block signalling.
iii) Level crossings should be equipped with lifting barriers.
iv) The level crossings should be provided with a telephonic connection with the Station Master and should have a system of exchange of Private numbers.
v) The Railway track at the level crossing should be straight on either side to afford a clear view of an approaching train.
vi) As long as the gate is kept open to road traffic a red flag by day time and red light (by using Trolley Lamp) during night should be displayed towards the approaching trains on either side of the level crossings.
vii) The level crossing shall be provided with whistle boards on either side at adequate distance to enjoin the drivers of approaching trains to give audible warning of the approach of the train to the road users.

3. The Railways should carry out the review of ‘B’ and ‘C’ class Level Crossings here normal position open to road traffic unavoidable. All such proposals may be personally decided by the DRMs and approved by Chief engineer & CTSS.

4. The position of such Level Crossings should be reviewed every 2 years interval and an attempt should made to provide necessary facilities and upgrade them to ‘A’ class as early as possible.

5. The receipt of this letter may please be acknowledged.

Sd/-
(Tirath Prakash)
Director Civil Engineering
Railway Board.

No: 83/W1/LX/16
New Delhi, dt. 2.83.

Copy forwarded for information to:-
The General Manager(Engg.)/S.E.Railway and others.
The subject regarding provision of telephones at manned level crossing gates was discussed in the
last GMs conference held at Madras on 10th June 1983. As you may be aware, M.R. has given directive
that all manned level crossing gates should be provided with telephones progressively.

2. In pursuance of this directive, it is desired that Railways should provide this facility on at least 100 level crossing gates during the current financial year as per the railway wise distribution indicated below:-

<table>
<thead>
<tr>
<th>Railway</th>
<th>No.of gates to be provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>7</td>
</tr>
<tr>
<td>Eastern</td>
<td>25</td>
</tr>
<tr>
<td>Northern</td>
<td>12</td>
</tr>
<tr>
<td>South Eastern</td>
<td>4</td>
</tr>
<tr>
<td>North East Frontier</td>
<td>4</td>
</tr>
<tr>
<td>Southern</td>
<td>10</td>
</tr>
<tr>
<td>South Central</td>
<td>10</td>
</tr>
<tr>
<td>South Eastern</td>
<td>14</td>
</tr>
<tr>
<td>Western</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The quota allotted to each Railway is the bare Minimum which must be completed without fail, it
will be appreciated if Railways can improve upon this figure and provide telephones at more number of
level crossing gates.

1. While planning this work, preference should be given to level crossing gates on Rajdhani routes, suburban areas and on curves. Due consideration may also be
given to locations where Railway’s own alignments are already existing and the
facility can be provided by putting additional wires on the same alignment so as to
drive the optimum benefit by completing the maximum number of gates with the
limited resources available.

4. Where two level crossing gates are existing in the same section, only one pair
may be provided to keep the cost to the bare minimum and the telephones may be
connected in parallel. Necessary instructions will have to be issued to differentiate the
identify of the gates in such cases.

5. Instructions regarding provision of funds for this purpose will be separately issued shortly. In the meanwhile, steps may be taken to identify the gates and take up the
planning so as to ensure that this work is completed within the current financial year positively.

6. Board should be kept informed about the progress through monthly progress report to reach by 10th of the following month.

Please acknowledge receipt.

Sd/-
(Kalyan Singh)
Jt.Director(S&T)III,Railway Board.
No: 84/W3/SG/LX/1.Pt., New Delhi, dt.15.10.84.

The General Manager(S&T)
All Indian Railways.

Sub: Provision of boom locking on lifting type barrier.

The arrangement of boom locking on lifting type barrier was discussed in 48th Signal Standards committee(1973) which recommended that the locking and detection arrangement with the interlocked barrier was considered unnecessary. The recommendation was accepted and accordingly this feature was deleted from the standard drawing by RDSO.

The arrangement of turn on bracket and stop, as per the present standard drawing, is such that, unless it is maintained carefully within the precise tolerance, it allows the boom to be lifted, in some cases it could be lifted to an extent where even light vehicles could pass underneath.

In actual practice it is observed that some Railways have removed the boom locking while others have continued it.

The matter has been re-examined and keeping in view the safety aspect, board have decided that the boom locking should be provided on the interlocked level crossing gates provided with lifting barrier.

While providing this feature priority should be given to suburban sections and busy gates near big cities and level crossings on the trunk and important main lines. The feature should form essential part of new work.

Sd/-
(Kalyan Singh)
Jt.Director(S&T)III,Rly.Board.

No: 84/W3/SG/LX/1-Pt. New Delhi, dt.15.10.84.

Copy to:
1. Director General (S&T), RDSO, Lucknow for information and necessary action to modify the standard drawing accordingly and CSTEs and CSTE(Con), All Indian railways and others.

Sd/-
(Kalyan Singh)
Jt.Director(S&T)III,Rly.Board.
No: 83/W1/LX/16(I), New Delhi, dt.24.10.85.

The General Managers,
All Indian Railways


Board vide their letter No.65/W1/LX/45 dated: 8.8.66 had desired the Railways to concentrate on providing lifting type barrier gates, which are also coupled giving first priority to level crossing with multiple lines and where traffic is heavy. The progress in this connection has been slow.

2. Recent accidents at busy manned level crossings provided with independently operated swing gate leaves have highlighted the urgent need to couple the gate leaves or replace them with co-acting lifting barriers. The independently operated swing gate not only takes longer time to close but also can lead to a situation where a vehicle which has entered the level crossing is not able to get out in time of the other side gate is in the process of being closed. Board have therefore decided that immediate action should be taken to either couple the existing swing gate leaves or to provide improvised short lifting barriers in case of level crossing having single lane road traffic and standard lifting barriers having double lane road traffic.

3. Among the two alternatives referred to above, Railway may chose any one of the alternatives depending upon the cost, maintainability and other local conditions. A copy of an improvised lifting barrier developed on south Central Railway is enclosed for guidance. Where, however, replacement of existing swing gates by lifting barriers has already been planned upto 1986-87, the proposal need not be modified but executed as planned.

4. Board desire that each Railway should identify and draw a priority list of all such non-interlocked level crossings where either the swing gates have to be coupled or lifting barriers have to be provided. Priority should be given for level crossings having heavy road traffic, multiple lines and level crossings with restricted visibility and without telephone etc.

2. Board desire that the works should be so planned as to be completed by 31.3.1989.

6. Board desire that for the work that can be executed by the railway within the current year requirement funds should be advised to the board telegraphically by 31.10.85. For the works that can be executed by Railway in 1986-87 provision should be made in the final works Program under Plan Head, ‘S&T’ with full provision of funds. It should be borne in mind that works should be programmed only to the extent that can be executed within the same year. To the extent funds are required for those works in 86-87, you can exceed the coiling under the Plan Head ‘S&T.’
7. This issue with the concurrence of finance directorate.

8. A report should be submitted to the board within 2 months regarding Railways’ plans to provide coupled swing gate/lifting barriers along with year wise targets.

Please acknowledge receipt.

Enclo; As above. Sd/-(Tirath Prakash)
Director Civil Engineering.

No: 83/W1/LX/16(I) New Delhi, dt.6.1.85.

Copy forwarded for information to:-
All concerned.
Sub : Use of Carex type plastic reflectors on the red discs
At manned level crossing and sign boards at unmanned
Level crossing.

Instructions were issued vide this office letter No.70/W1/LX/11 dt.27.5.1980 for Railway Administrations to provide either Carex type plastic reflectors or luminous paints/tape on the gates of those ‘C’ class level crossings that are not provided with gate lamps to forward the road users about the approaching level crossing gate.

2. Considering the satisfactory performance of the Carex type plastic reflectors report by the various zonal Railways, it has now been decided that such plastic reflectors should be used on the red discs at all the manned level crossings and also on the sign boards at the unmanned level crossings. The size and the disposition of the plastic reflectors on the red discs may be in accordance with RDSO Drawing No.SA-8072/N.

3. Please acknowledge receipt of this letter.

Sd/-
( A. K. Mehrotra )
Jt.Director Civil Engg.( B & S)

Copy forwarded for information to :-

1. The General Manager(Engg.), All Indian Railways and others.
General Managers,
All Indian Railways.

Sub: Replacement of swing gates with lifting barriers.
Ref: Board’s letter of even number dated: 25.5.87.

On a further review of the question regarding removal of leaf gates, after their replacement of lifting barriers, Board have now decided as under:

1. At all non-interlocked level crossings already provided with lifting barriers, the gate leaves shall be removed and, in their place, a chain-and-disc arrangements will be provided as a standby. The chain should be painted with white enamel and disc with signal red, the latter being so fixed as to hang vertically and be clearly visible to an approaching road user.

2. At interlocked level crossing provided with lifting barriers, it would be in order to retain the gate leaves as a stand-by for availing the facility of interlocking in case of damage to the lifting barriers, provided the gate leaves are painted with paint of suitable color(such as dark green, or red, oxide, or battle ship gray) so as to match with the surroundings and not be conspicuously visible to the driver of an approaching road vehicle. The areas to be painted this will depend on whether the road approach is on the straight or on a curve. The discs shall, however, be painted red on the side which is seen by the road user when the gate is closed to road traffic.

The above decisions have been taken with a view to minimising the chances of road vehicles running into lifting barriers in the closed position and, at the same time, minimising detention to traffic in case of damage to lifting barriers which are interlocked with signals.

Please acknowledge receipt.

Sd/-

( A.K.MEHROTRA )
Executive Director Civil Engg.(B&S)
Railway Board.
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No: 86/W3/SG/A/79 New Delhi, dt.28.7.88.

The General Manager(S&T),
South Central Railway,
Secunderabad.

Sub: Raised and lowered positions of Lifting Barriers.
Ref: Accident of 4 DN Madras-Howrah Mail at a manned level
    crossing No.119 between Nellore and Padugupadu stations of S.C.
    Railway on 3.9.86-CRRS recommendation.

Arising out of the above accident on a manned interlocked level crossing, Commissioner of
Railway Safety, Southern Circle on inspection of a few other level crossings in the section observed that
the opening of the boom was 70 to the horizontal due to wrong adjustment.

It is desired that the lifting barrier boom in raised position should be between 85 to 90 to the
horizontal and in the fully lowered(closed)position 0-5 to the horizontal as specified in the specification
No.IRS:S-41 (Clause 5.9).

This is for your information and necessary action.

Sd/-
( K.N.Jain )
Exec.Director(S&T)R
Railway Board.

Copy to:
2. The General Manager (S&T) and (S&T / Const.)
   All Indian Railways except SC Railway.
3. DG/Sig , RDSO for information and necessary action in reference to D.O. Letter
   No.STS/MM/LBG dt.7/8.7.88.
The General Managers,
All Indian Railways.

Reg: Exchange of Private Numbers.

Some of the Railways have come up to the Board with a suggestion that the procedure regarding exchange of private numbers between the Station Master and the Gate man at interlocked gates should be dispensed with.

The matter has been examined in detail and it has been decided to give up the system of exchange of private number at interlocked traffic gates within station limits only.

Please acknowledge receipt of this letter.

DA: Nil.

Sd/-

(T.A. Subramaniam)
Director/Safety-II.
Government of India Ministry of Railways Railway Board,


The General Manager, All Indian Railways.

Sub: Retention of swing gates on replacement by lifting barriers at level crossings.

Ref: Board’s letter of even number dt.6/11.4.88.

In suppression of all the extant instructions on the above subject, board have divided the swing gates on their replacement by lifting barriers at both the interlocked and non-interlocked level crossings, should invariably be removed.

2. Accordingly the swing gates, which have since been retained in terms of earlier instructions despite their replacement by lifting barriers, should be removed at the earliest and compliance report furnished to the board’s office by 31.10.89 at the latest.

Please acknowledge receipt.

Sd/-

( A. K.Mehrotra )
Exe-Director,Civil Engg.(B&S)
Railway Board.

No: 83/W1/LX/16(CE-I) New Delhi, dt.11.8.1989.

Copy forwarded for information to:-

1. The General Manager(Engg.),Central,Eastern,Northern,N.E.,N.F.,Southern,South Central,South Eastern and Western Railway(with five spare copies each).


3. The General Manager/Metro,33/1 Chawringhes road,Calcutta-700 071.

4. The Principal,Railway Staff College, Vadodara(with 2 spare copies).

5. The director,I.R.I.S.E.T., Secunderabad(with 2 spare copies).
6. The director General, R.D.S.O., Lucknow (with five spare copies).

7. The director, IRICEN, Pune.

    Sd/
    ( A.K. Mehrotra )
    Exe-Director, Civil Engg. (B&S)
    Railway Board.

Copy to: 
1. Signal Branch (with ten spares)
2. Safety (A&R), Branch with five spare copies.

    Sd/
    ( A.K. Mehrotra)
    Exe. director, civil Engg. (B&S)
    Railway Board.
Ministry of Railways (Railway Board) have decided to constitute a committee to suggest the norms for interlocking of level crossings vis-to-vis rail/road traffic density, TVUS., Speed etc. The Committee will consist of the following.

i) Shri R.D. Sharma,  
Exe. Director/Signal,  
Railway Board. ....... Convenor.

ii) Shri Indra Ghosh,  
Exe. Director/Safety,  
Railway Board.

iii) Shri R.D. Garg,  
Exe. Director/CE(B&S)  
Railway Board.

iv) Ms Bela Banerjee,  
Exe. Director/EX(LR)  
Railway Board.

2. The terms of reference of the committee will be as under:

   i) To study the existing instructions and the present status of route-wise interlocking of level crossing on BG & MG routes of Indian Railways.

   ii) To suggest norms for interlocking of level crossing vis-a-vis the rail/road traffic density (TVUs) and speed on the sections etc.

   iii) To suggest action plan for implementation of the committee’s recommendation for interlocking of level crossing on Indian Railways.

3. The committee should submit its report by 30.9.98.

4. The Headquarters of the committee will be at New Delhi.

5. The Member of the committee will be eligible to draw TA/DA according to the rules applicable to them.

Sd/-  
( A.D. Ramchandran )  
Under Secretary (E)  
Railway Board.
1. The General Managers OSDs, All Indian Railways & Production Units.

2. PS/MR, PPSs/PSs to CRB, FC, ME, MM, MT, MS, ML, Secy., AM(CE), AM(S), AM(Traffic), AM(Signal), JS(G), JS(C), JS, JS(E), DS(E), DS(G), US(A), US(Protocol), Railway Board.

3. DG/RDSO, Lucknow.

4. The Pay & Accounts Officer, Railway Board.


6. All Members of the Committee.
GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
(RAILWAY BOARD)  

No: 77/W-3/SG/LX/2, New Delhi, dt. 16.3.79.

The General Managers,  
All Indian Railways.

Re: Safety Devices at Level Crossings.
Ref: Board’s letter No.
   xix) 60/W3/AF/2 dt. 12.1.60  
   xx) 60/W3/SG/2 dt. 28.9.60  
   xxi) 59/W3/TN/38 dt.22.5.61  
   xxii) 62/W3/SGA/13 dt.28.8.62  
   xxiii) 62/W3/SG/15 dt.26.3.64  
   xxiv) 63/W3/SG/88 dt.2.8.66  
   xxv) 63/W3/SG/88 dt.23.11.65  
   xxvi) 62/W3/SG/115 dt.12.4.65  
   xxvii) 63/W3/SG/88 dt.12.4.67  
   xxviii) 68/Safety-11/29/4 dt.17.5.68  
   xxix) 63/W3/SG/88/1 dt.18.7.69  
   xxx) 63/W3/SG/LX/1 dt.19.9.69  
   xxxi) 69/W3/SG/LX/1 dt.14.1.70  
   xxxii) 62/W3/SG/LX/1 dt.14.5.70  
   xxxiii) 62/W3/SG/15 dt.15.9.70  
   xxxiv) 63/W3/SG/88 dt.16.11.70  
   xxxvi) 77/W3/SG/LX/2 dt.28.12.77.

In the past Ministry of Railways have issued a number of instructions for Interlocking, Provision of  
Telephone and approach Operated Warning Devices at level crossings. All these instructions have been  
reviewed in the Safety and Signalling directorates of this Ministry in the light of the recommendations  
made by Commissioner of Railway Safety and various Accident Enquiry committee from time to time.  
Taking into account the progress already made in the implementation of the earlier directives, instructions  
for the provision of safety devices at each type of Level Crossings are consolidated below for information  
and necessary action.

2. “Special” Class Level Crossing (These shall be normally kept open to road traffic)

2.3 Within Station Limits.

(f) Should be interlocked.

(g) Telephone communication with ASM’s office should be provided.

(h) Where the Level Crossing Gate is operated from a place other than the place of operation of the Signal  
protecting the gate, arrangement of interlocking should be such that the last operation before taking  
‘OFF’ the signal should be the closing of the gate and the first operation after the train has cleared the  
Level Crossing and the signal has been put back to ‘ON’ position should be the gate by the gateman.

(i) Should be equipped with Lifting Barriers.

2.4 Outside Station Limits:

(e) Should be interlocked.
f) Telephone communication with ASM’s office of adjoining station should be provided.
g) Warning Bell operated by the approach of a train should be provided.
h) Should be equipped with Lifting Barriers.

4. ‘A’ Class Lever Crossings: (These shall be normally kept open to road traffic).

4.1 Within Station Limits:

e) Should be interlocked
f) Telephone communication with ASM’s office should be provided.
g) Where level Crossing Gate is operated from a place other than the place of operation of the signal protecting the gate arrangements of interlocking should be such that the last operation before taking ‘OFF’ the signal should be closing of the gate and the First Operation after the train has cleared the Level Crossing and the signal has been put back to (ON position should be the opening of the gate by the gateman.

h) Should be equipped with Lifting Barriers.

4.2 Outside Station Limits:

e) Should be interlocked.
f) Telephone communication with ASM’s office of joining station should be provided.
g) Provision of Warning Bell operated by the approach of a train to be invariably provided on all suburban sections and non-suburban sections provided with Automatic block Signalling. At other placed the Railway may provide this facility where it is considered desirable by the Railway Administration, on account of local conditions.

h) Should be equipped with Lifting Barriers.

5. ‘B’ Class Level Crossings (Those Level Crossings both with station limits and outside station limits, falling on sections provided with systems of train working other than automatic signalling/APB).

These shall be normally kept closed to road traffic.

5.1 The safety side to be provided under this condition are given below:

5.1.1 Within Station Limits:

(e) Telephone communication shall be provided with the ASM’s Office.
(f) Lifting Barriers shall be provided.
(g) In suburban sections, the level crossings shall be interlocked.
(h) On non-suburban sections, where the gates are operated by Cabin staff of Cabins adjoining the level crossing, the Level crossings should be interlocked with the station signals.

5.1.2 Outside Station Limits.

d) Telephone communication shall be provided with the ASM of adjoining station at all the level crossing gates on Rajdhani Express Routes and on suburban sections. On other routes such communication shall be provided at these level crossing which are situated in curves obstructing the view of the level crossings from approaching trains and vice-versa.

e) Lifting Barriers shall be provided.

f) In suburban Sections the Level Crossings shall be interlocked.
5.2 An immediate census of traffic shall be taken in respect of these ‘B’ Class Level Crossings Gates which are at present kept normally open to road traffic. A such of those level crossing gates where the traffic density warrants upgradation of the level crossings to either ‘A’ class or ‘Special’ class, facilities as contained in Paras 2 & 3 above may be provided at these level crossing gates. Such of these level crossings which, did not warrant upgradation to ‘A’ class or ‘Special’ class as a result of the census, should have their gates normally kept closed to road traffic and facilities provided as indicate in Para 4.1 above.

6. ‘C’ Class Level Crossings(manned):
(These Level Crossings both within Station Limits and outside station limits, fall in on sections provided with a system of Train Working other than automatic signalling/APB.

These shall be normally kept closed to road traffic.

6.1 The safety side to be provided for such level crossings are indicated below:

6.1.1 Within station limits:

(c) Telephone communication with the ASM’s office shall be provided.

(d) Where the gates are operated by Cabin staff of Cabins adjoining the Level Crossing the Level crossings, shall be provided with Lifting Barriers and interlocked with the Station signals.

6.1.2 Outside Station Limits:

(b) Telephone communication shall be provided with the ASM of adjoining station at all the level crossing gate on Rajdhani Express Routes and suburban sections. On other routes such communication shall be provided at those level crossings which are situated in a curve obstructing the view of the level crossings from approaching trains and vice-versa.

4.2.1 An immediate census of traffic shall be taken in respect of those ‘C’ class Level Crossing Gates which are at present kept normally open to road traffic. At such of those level crossing gates where the traffic density warrants upgradation of the level crossing to either ‘A’ class or ‘Special’ class immediate steps should be taken on upgrade them. Pending the formal upgradation of such gates to ‘A’ class or ‘special’ class provided at these level crossing gates. Such of these level crossing which do not warrant upgradation to ‘A’ class or ‘special’ class as a result of the census should have their gates normally kept closed to road traffic and facilities provided as indicated in para 5.1 above.

6.2 In case of Level Crossings falling on suburban Section they may be considered for upgradation to ‘E’ class in the event of their not qualifying for upgradation to ‘special’ or ‘A’ class and when so upgrade to ‘B’ class facilities as indicated in Para 4 shall be provided.

6.3 Attention is invited to Board’s letter No.78/W1/LX/106 dt.29.12.78 wherein the periodicity of conducting census cum job-analysis at level crossing gates have been given for assessing the need to upgrade and or man such level crossings. Wherever it is decided to man an existing unmanned ‘C’ class level crossings as a result of such a review, facilities as indicated in para 5.1 shall be provided.

6. In all cases where telephonic communication with ASM’s office, has been stipulated connection may be given with the Switchman in the adjoining Cabins, where so required under local operating conditions.
7. **Level Crossing both within and outside station limits falling on sections provided with Automatic Block signalling/APB.**

The Level crossing Gates situated on sections provided with automatic signalling/APB shall be interlocked irrespective of the classification. In addition, they shall be provided with Warning Bells operated by the approaching trains. Besides, approach locking should be provided on the control lever of the level crossing so that only when the portion of the track/tracks between the level crossing and the signals protecting the level crossing are clear, can the gates be opened (as already stipulated in board’s letter No. 77/W3/SG/LX/2 dt. 28.12.77).

8. These instructions superseded all the previous instructions issued in the past on the subject. Wherever facilities, more than the minimum specified above, have already been provided the same shall be retained.

9. Safety Devices at the level crossings may be planned on this basis on your railway.

10. Please acknowledge receipt of this letter.

*Also please see Board’s circular
No.83/WG/EG/16/1-Pt.
Dt.26.2.83.

Sd/- K. Subramanyan,
Addl. Director(Signals)
Railway Board

No.77/W3/SG/LX/2

New Delhi, Dt. 16.3.1979

Copy to G.M.(S&T)/Construction and others.
SAFETY DEVICES TO BE PROVIDED AT LEVEL CROSSING
(Board’s letter No.77/W-3/SG/LX/2 dt. 16.3.79 – summary in tabular form)

2. **Within Station Limits.**

<table>
<thead>
<tr>
<th>Class of level Crossing</th>
<th>Interlocking</th>
<th>Approach locking of gate Control level of Level crossing</th>
<th>Telephone Communication With ASM’s Office of Adjoining stn. Switchman of Adjoining cabin</th>
<th>Warning bell operated by The approach Of a train</th>
<th>Provision of Lifting Barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special class (Normally open to road traffic)</td>
<td>Compulsory</td>
<td>Compulsory in Auto sections And APB section</td>
<td>Compulsory from place of Operation of Gate to place Of operation Of signals/ASM’s Office.</td>
<td>Compulsory in suburban automatic And APB Signalling sections</td>
<td>Compulsory</td>
</tr>
<tr>
<td>‘A’ class (Normally open to road traffic)</td>
<td>Compulsory</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
</tr>
<tr>
<td>‘B’ Class <em>(Normally closed to road traffic)</em></td>
<td>Compulsory On – d) Suburban Sections. b)Automatic Signalling &amp; APB territory e) Where the f) Gate is worked by cabin staff</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>-do- *Please see Bd’s Circular No.77/W3/S/G/LX/2 dt. 1.11.80 and Bd’s letter No.83/W3/E/G/16/1-16 Dt.26.2.83</td>
</tr>
<tr>
<td>‘C’ Class <em>(Normally closed to road traffic)</em></td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
</tbody>
</table>

In case of ‘C’ Class level crossing falling on suburban sections these gates may be considered for upgradation to ‘B’ Class in the event of their not qualifying for upgradation to ‘Special’ or ‘A’ class and when so upgraded to ‘B’ Class facilities as indicated for ‘B’ Class shall be provided.

*If some ‘B’ Class level crossing gates are at present kept normally open to road traffic, an immediate census of traffic shall be taken for those gates. At such of those gates where the traffic density warrants upgradation of the gates to either ‘A’ class or ‘Special’ Class may be provided.*
The General Managers,
All Indian Railways.

Sub: Collision of No.E-3 down EMU Madras Central-Gummidipundi Passenger train with P.T.C. Bus No. EMU at manned level crossing between Tiruvottiyur and Ennur station of Southern Railway on 17.1.80.

“Railway Board in their letter No.63/W3/SG/88 dt.16.11.80 advised the Railways that the approach operated warning bell cannot ensure the standard of safety desired, particularly at busy level crossing gates. Experience has shown that the bell arrangement itself is not a very reliable arrangement. Several witnesses who deposed before me have also given expression to this besides my own observations while I was at before meo has also given expression to this besides my own observations while I was at this and some other level crossings. I particular, the bell arrangement for non-inter locked level crossings may even mislead the gateman thus endangering safety. It is recommended that bell warning safety aid to non inter-locked level crossings may be discontinued”.

4. General Manager, Southern Railway gave the following comments of this recommendation:

Board’s letter No.77/W3/SG/LX/2 dt.16.3.79 stipulates warning bell should be provided as a safety device in addition to telephone, interlocking etc.

The review by CRS in para 9.6 that provision of only bell warning as a safety aid to non-interlocked level crossings should be discontinued are agreed to. However, it is felt that there is no objection if bell warning is provided in addition to a telephone and is required’.

3. After careful consideration of the matter, the Ministry has decided that bell warning provide as a safety aid at non-interlocked level crossings, if any on your Railway, should be discontinued.

4. It is clarified for information of the Central Rly’s in reference to Railway’s remarks in para 2 above that the provision of bell warning mentioned in board’s letter No.77/W3/SG/LX/2 dt. 163.79 is in conjunction with the interlocking.

1. Receipt of this letter may please be acknowledged.

Sd/-
Kalyan Singh, 23.11.81
No: 77/W3/SG/LX/2

New Delhi dt.

Copy to:

1. The GMs/S&T, Const. Central, Eastern, Northern, Southern, South Central, South Eastern & Western Railway.
2. The Director Genl., RDSO, LKO.
3. CSTE/MTP/Rlys., 2nd Floor, Churchgate Station Bldg., Bombay-400020.
4. CSTE/MTP/Rlys., Calcutta, 14, Strand Road, 5th Floor, Cal-1.
5. Dy.CSTE-MTP, Rlys. MAS, Poonamallee High Road, MAS-8.
6. Dy.CSTE/MTP Rlys./Tilak Bridge, NDLS.
7. The Principle, IRSET, SC.
8. Prof./S&T, Rly. Staff College, Baroda.
9. The Chief Engineer, RE/Allahabad.

Sd/- Kalyan Singh
Jt. Director/S&T-III, Railway Board.
The General Managers,
All Indian Railways.

Reg: Manning of unmanned level crossings.

With a view to improving safety of rail and road traffic at level crossings, Board have decided to accelerate the pace of manning of level crossing and to take up a phased programme manning the unmanned level crossings where buses regularly ply. Similarly in case of level crossings situated close to the cabins having vehicular traffic they have decided to provide lifting barriers with interlocking operated from cabins.

2. Board, therefore, desire that Railways should take the following action immediately:

(C) Providing lifting barriers operated from cabins in case of level crossings situated near cabins within station yards.

(iv) In response to the Board’s message, the Railways have indicated that there are 1,009 such level crossings as per the details given in Annexure ‘A’. Board have decided that provision of lifting barriers operated from cabins in case of 150 level crossing as per the distribution given in Annexure ‘A’, should be sanctioned by Railways in 1982-83 as out of turn works under their power of sanction. In case the proposals are beyond their power of sanction they should be submitted to the board for out of turn sanction. The funds required during 1982-83 should be indicated at the time of August Review and Revised Budget.

(v) For the Works Programme of 1983-84, Railways should propose the provision of lifting barriers as indicated in Annexure ‘A’ in the preliminary Works Programme.

(vi) Preference should be given for Group ‘A’ and ‘B’ routes on broad gauge and trunk routes on metre gauge.

(D) Manning of unmanned level crossings where buses ply:

(v) In reference to the board’s message, the Railways have indicated that there are 1953 such unmanned level crossings. Board have decided that 212 level crossings, as per the distribution given in Annexure ‘B’ should be taken up for manning as out of turn works under ACSPF(b), fully chargeable to the Railway in 1982-83. Estimate for these works should be sanctioned by the Railways under their own powers. In case proposals are beyond the Railway’s power of sanction. Board should be indicated at the time of August Review and Revised Budget.

(vi) For 1983-84 Works Programme, work irrespective of 300 level crossings as per the distribution given in Annexure ‘B’ should be included in your Preliminary Works Programme.

(vii) Preference should be given to Group ‘A’ & ‘B’ routes on B.G. Trunk routes on M.G.

(viii) Railway should similarly take up manning of 100 level crossings every year, the initial cost being got deposited from State Government which shall be reimbursed from RWSP, subject to the amount being available to the credit of the State Government. For this purpose State Govt. should be approached. A letter is also being addressed to the State Government by Ministry of Railways, in this connection.

5. In regard to creation of posts for manning of level crossings, attention is invited to Member Staff’s D.O. letter No.E(G)82/EC-2-2 dt. 19.6.1982 addressed to the General Manager, S.E. Railway and copy to other Railways under which for new plan assets and new activities, additional posts required can be created and filled up by suitable redeployment of existing staff or matching surrender, so that extra budgetary burden is avoided. In cases where Railways are not able to create additional posts of gateman required for manning level crossings by redeployment, as stated above, the Railways may submit their proposals to the board, duly concurred by FA& CAO and with the personal approval of G.M.

6. This letter is being issued in consultation with Establishment and Finance Directorates of the Board.
7. The receipt of this letter may please be acknowledged.
   Enclo: Two Annexure.

   Sd/-
   (Tirath Prakash)Director, Civil Engineering
   Railway Board.

Copy to: All concerned.
The General
All Indian Railways

Sub: Working at Level Crossings.

Board, vide their letter No.77/W-3/SG/LX/2 dt.16.3.79, had issued consolidated instructions for the safety devices to be provided at the Level Crossings of different classifications. As per these instructions only Special and ‘A’ Class Level Crossings which are interlocked and protected with Signals could be allowed to have normal position open to road traffic. All ‘B’ and ‘C’ class Level Crossings were required to be normally kept closed to road traffic. After the issue of these instructions Various Railways have represented to the board that strict compliance of these directives is not practically possible, as due to financial constraints it has not been possible to take up interlocking of ‘B’ and ‘C’ class Level Crossings having heavy traffic and their consequent upgradation ot ‘A’ class to keep normal position of gate open to road traffic.

2. Board have, therefore, reconsidered the issue and have decided that in exceptional cases ‘B’ and ‘C’ class non-interlocked level crossings having heavy road traffic can be permitted to have their normal position open to road traffic provided the following conditions are satisfied :-

viii) The level crossing should not be on a suburban section.
ix) The section concerned should not have automatic block signalling or automatic permisive block signalling.
x) Level crossings should be equipped with lifting barriers.
xii) The level crossings should be provided with a telephonic connection with the Station Master and should have a system of exchange of Private numbers.

xiii) As long as the gate is kept open to road traffic a red flag by day time and red light (by using Trolley Lamp) during night should be displayed towards the approaching trains on either side of the level crossings.
xiv) The level crossing shall be provided with whistle boards on either side at adequate distance to enjoin the drivers of approaching trains to give audible warning of the approach of the train to the road users.

3. The Railways should carry out the review of ‘B’ and ‘c’ class Level Crossings here normal position open to road traffic unavoidable. All such proposals may be personally decided by the DRMs and approved by Chief engineer & CTSS.

4. The position of such Level Crossings should be reviewed every 2 years interval and an attempt should made to provide necessary facilities and upgrade them to ‘A’ class as early as possible.
5. The receipt of this letter may please be acknowledged.

Sd/-

( Tirath Prakash )
Director Civil Engineering
Railway Board.

No; 83/W1/LX/16 New Delhi, dt. 2.83.

Copy forwarded for information to:-

The General Manager(Engg.)/S.E.Railway and others.
The General Managers(S&T)  
All Indian Railway.

Sub: Providing telephones at manned level crossing gates.

The subject regarding provision of telephones at manned level crossing gates was discussed in the last GMs conference held at Madras on 10th June 1983. As you may be aware, M.R. has given directive that all manned level crossing gates should be provided with telephones progressively.

2. In pursuance of this directive, it is desired that Railways should provide this facility on at least 100 level crossing gates during the current financial year as per the railway wise distribution indicated below:-

<table>
<thead>
<tr>
<th>Railway</th>
<th>No.of gates to be provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>7</td>
</tr>
<tr>
<td>Eastern</td>
<td>25</td>
</tr>
<tr>
<td>Northern</td>
<td>12</td>
</tr>
<tr>
<td>South Eastern</td>
<td>4</td>
</tr>
<tr>
<td>North East Frontier</td>
<td>4</td>
</tr>
<tr>
<td>Southern</td>
<td>10</td>
</tr>
<tr>
<td>South Central</td>
<td>10</td>
</tr>
<tr>
<td>South Eastern</td>
<td>14</td>
</tr>
<tr>
<td>Western</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The quota allotted to each Railway is the bare Minimum which must be completed without fail, it will be appreciated if Railways can improve upon this figure and provide telephones at more number of level crossing gates.

3. While planning this work, preference should be given to level crossing gates on Rajdhani routes, suburban areas and on curves. Due consideration may also be given to locations where Railway’s own alignments are already existing and the facility can be provided by putting additional wires on the same alignment so as to drive the optimum benefit by completing the maximum number of gates with the limited resources available.

4. Where two level crossing gates are existing in the same section, only one pair may be provided to keep the cost to the bare minimum and the telephones may be connected in parallel. Necessary instructions will have to be issued to differentiate the identify of the gates in such cases.

5. Instructions regarding provision of funds for this purpose will be separately issued
shortly. In the meanwhile, steps may be taken to identify the gates and take up the planning so as to ensure that this work is completed within the current financial year positively.

6. Board should be kept informed about the progress through monthly progress report to reach by 10th of the following month.

Please acknowledge receipt.

Sd/-

( Kalyan Singh)

Jt. Director(S&T) III, Railway Board.
The arrangement of boom locking on lifting type barrier was discussed in 48th Signal Standards committee (1973) which recommended that the locking and detection arrangement with the interlocked barrier was considered unnecessary. The recommendation was accepted and accordingly this feature was deleted from the standard drawing by RDSO.

The arrangement of turn on bracket and stop, as per the present standard drawing, is such that, unless it is maintained carefully within the precise tolerance, it allows the boom to be lifted, in some cases it could be lifted to an extent where even light vehicles could pass underneath.

In actual practice it is observed that some Railways have removed the boom locking while others have continued it.

The matter has been re-examined and keeping in view the safety aspect, board have decided that the boom locking should be provided on the interlocked level crossing gates provided with lifting barrier.

While providing this feature priority should be given to suburban sections and busy gates near big cities and level crossings on the trunk and important main lines. The feature should form essential part of new work.

Sd/-
(Kalyan Singh)
Jt. Director (S&T) III, Rly. Board.

Copy to:
2. Director General (S&T), RDSO, Lucknow for information and necessary action to modify the standard drawing accordingly and CSTEs and CSTE (Con), All Indian railways and others.

Sd/-
(Kalyan Singh)
Jt. Director (S&T) III, Rly. Board.
The General Managers,
All Indian Railways


Board vide their letter No.65/W1/LX/45 dated: 8.8.66 had desired the Railways to concentrate on providing lifting type barrier gates, which are also coupled giving first priority to level crossing with multiple lines and where traffic is heavy. The progress in this connection has been slow.

2. Recent accidents at busy manned level crossings provided with independently operated swing gate leaves have highlighted the urgent need to couple the gate leaves or replace them with co-acting lifting barriers. The independently operated swing gate not only takes longer time to close but also can lead to a situation where a vehicle which has entered the level crossing is not able to get out in time of the other side gate is in the process of being closed. Board have therefore decided that immediate action should be taken to either couple the existing swing gate leaves or to provide improvised short lifting barriers in case of level crossing having single lane road traffic and standard lifting barriers having double lane road traffic.

3. Among the two alternatives referred to above, Railway may chose any one of the alternatives depending upon the cost, maintainability and other local conditions. A copy of an improvised lifting barrier developed on south Central Railway is enclosed for guidance. Where, however, replacement of existing swing gates by lifting barriers has already been planned upto 1986-87, the proposal need not be modified but executed as planned.

4. Board desire that each Railway should identify and draw a priority list of all such non-interload level crossings where either the swing gates have to be coupled or lifting barriers have to be provided. Priority should be given for level crossings having heavy road traffic, multiple lines and level crossings with restricted visibility and without telephone etc.

5. Board desire that the works should be so planned as to be completed by 31.3.1989.

6. Board desire that for the work that can be executed by the railway within the current year requirement funds should be advised to the board telegraphically by 31.10.85. For the works that can be executed by Railway in 1986-87 provision should be made in the final works Programme under Plan Head ‘S&T’ with full provision of funds. It should be borne in mind that works should be programmed only to the extent that can be executed within the same year. To the extent funds are required for those works in 86-87, you can exceed the coiling under the Plan Head ‘S&T’.

7. This issues with the concurrence of finance directorate.
8. A report should be submitted to the board within 2 months regarding Railways’ plans to provide coupled swing gate/lifting barriers along with year wise targets.

Please acknowledge receipt.

Enclo; As above.

No: 83/W1/LX/16(I)

Copy forwarded for information to:-

All concerned.
Government of India  
Ministry of Railways  
(Railway Board)

**No.83/W1/LX/13, Dated: Jan, 1988**

The General Manager,  
All Indian Railways.

Sub: Use of Carex type plastic reflectors on the red discs  
At manned level crossing and sign boards at unmanned  
Level crossing.

Instructions were issued vide this office letter No.70/W1/LX/11 dt.27.5.1980 for Railway Administrations to provide either Carex type plastic reflectors or luminous paints/tape on the gates of those ‘C’ class level crossings that are not provided with gate lamps to forward the road users about the approaching level crossing gate.

2. Considering the satisfactory performance of the Carex type plastic reflectors report by the various zonal Railways, it has now been decided that such plastic reflectors should be used on the red discs at all the manned level crossings and also on the sign boards at the unmanned level crossings. The size and the disposition of the plastic reflectors on the red discs may be in accordance with RDSO Drawing No.SA-8072/N.

3. Please acknowledge receipt of this letter.

Sd/-  
(A. K. Mehrotra)  
Jt. Director Civil Engg. (B & S)

No.83/W1/LX/13  
New Delhi -1-88

Copy forwarded for information to:-

3. The General Manager(Engg.), All Indian Railways and others.
No:83/W1/LX/16(CE-1) New Delhi, dt.6.5.1988.

General Managers,
All Indian Railways.

Sub: Replacement of swing gates with lifting barriers.
Ref: Board’s letter of even number dated: 25.5.87.

On a further review of the question regarding removal of leaf gates, after their replacement of lifting barriers, Board have now decided as under:-

1. At all non-interlocked level crossings already provided with lifting barriers, the gate leaves shall be removed and, in their place, a chain-and-disc arrangements will be provided as a standby. The chain should be painted with white enamel and disc with signal red, the latter being so fixed as to hang vertically and be clearly visible to an approaching road user.

2. At interlocked level crossing provided with lifting barriers, it would be in order to retain the gate leaves as a stand-by for availing the facility of interlocking in case of damage to the lifting barriers, provided the gate leaves are painted with paint of suitable colour(such as dark green, or red, oxide, or battle ship grey) so as to match with the surroundings and not be conspicuously visible to the driver of an approaching road vehicle. The areas to be painted this will depend on whether the road approach is on the straight or on a curve. The discs shall, however, be painted red on the side which is seen by the road user when the gate is closed to road traffic.

The above decisions have been taken with a view to minimising the chances of road vehicles running into lifting barriers in the closed position and, at the same time, minimising detention to traffic in case of damage to lifting barriers which are interlocked with signals.

Please acknowledge receipt.

Sd/-
( A.K.MEHROTRA )
Executive Director Civil Engg.(B&S)

Railway Board.

The General Manager, All Indian Railways.

Sub: Retention of swing gates on replacement by lifting barriers at level crossings.

Ref: Board’s letter of even number dt.6/11.4.88.

In superssion of all the extant instructions on the above subject, board have devided the swing gates on their replacement by lifting barriers at both the interlocked and non-interlocked level crossings, should invariably be removed.

2. Accordingly the swing gates, which have since been retained in terms of earlier instructions despite their replacement by lifting barriers, should be removed at the earliest and compliance report furnished to the board’s office by 31.10.89 at the latest.

Please acknowledge receipt.

Sd/-

( A. K. Mehrotra )
Exe-Director, Civil Engg.(B&S)
Railway Board.

No: 83/W1/LX/16(CE-I) New Delhi, dt.11.8.1989.

Copy forwarded for information to:-
8. The General Manager(Engg.), Central, Eastern, Northern, N.E., N.F., Southern, South Central, South Eastern and Western Railway(with five spare copies each).


10. The General Manager/Metro, 33/1 Chawringhes road, Calcutta-700 071.

11. The Principal, Railway Staff College, Vadodara(with 2 spare copies).

12. The director, I.R.I.S.E.T., Secunderabad(with 2 spare copies).
13. The director General,R.D.S.O.,Lucknow(with five spare copies).

14. The director, IRICEN, Pune.

Sd/-
(A.K.Mehrotra)
Exe-Director,Civil Engg.(B&S)
Railway Board.

Copy to:
1. Signal Branch(with ten spares)
4. Safety(A&R),Branch with five spare copies.

Sd/-
(A.K.Mehrotra)
Exe.director,civil Engg.(B&S)
Railway Board.
No. CSTE/GARDEN REACH/LEVER FRAME
Dated:-

The D.R.M.(S&T)/S.E.Railway,
KGP/CKP/BSP/NGP/ADA/KUR/WAT/SBP.

Sub:- Overhauling of Lever frames.

It has come to the notice that the Operating staff for NI during lever frame overhauling are being utilised for RE works at stations. This puts a constraint on availability of operating staff for overhauling of lever frame, resulting into accumulation of backlog. In order to wipe out the arrears in future all the lever frames at these stations should also be overhauled along with other works provided such frames are due for overhauling within a year.

( R. N. Kumar )
Chief Signal & Telecom. Engineer