



सत्यमेव जयते

**GOVERNMENT OF INDIA**  
**MINISTRY OF CIVIL AVIATION**  
**COMMISSION OF RAILWAY SAFETY**



**ANNUAL REPORT FOR 2008-2009**

**BY**  
**CHIEF COMMISSIONER OF RAILWAY SAFETY**  
**LUCKNOW**

# **CHAPTER - I**

## **FUNCTIONS AND ORGANISATION OF THE COMMISSION OF RAILWAY SAFETY**

### **1.1 INTRODUCTION**

The Commission of Railway Safety, working under the administrative control of the Ministry of Civil Aviation of the Government of India, deals with matters pertaining to safety of rail travel and train operation and also performs such statutory functions as laid down in the Railways Act (1989), which are inspectorial, investigatory and advisory in nature. The Commission functions according to the rules framed under the Railways Act and various executive instructions issued from time to time. The most important duty of the Commission is to ensure that any new Railway line to be opened for passenger traffic conforms to the standards and specifications prescribed by the Ministry of Railways and also the new line is safe in all respects for carrying of passenger traffic. This is also applicable to other works such as gauge conversion, doubling of lines and electrification of existing lines. The Commission also conducts statutory inquiries into serious train accidents occurring on the Indian Railways and makes recommendations for improving safety on the Railways in India. Delhi Metro, to which the jurisdiction of the Commission of Railway Safety extends, is governed by Delhi Metro Railway (O&M) Act, 2002. The annual Report for the period 2008-09 giving full Account of activities on Delhi Metro under Section 12 and 13 of the said act is placed at Appendix VI.

### **1.2 ORGANISATIONAL STRUCTURE**

1.2.1 The Commission is headed by a Chief Commissioner of Railway Safety (CCRS), at Lucknow, who acts as the Principal Technical Advisor to the Central Government in all matters with which the Commission is concerned. Working under the administrative control of CCRS are nine Commissioners of Railway Safety (CRS), exercising jurisdiction over the Zonal Railways. In addition, some of them have additional jurisdiction over railway establishments other than Zonal Railways viz (i) Metro Railway, Kolkata, (ii) DMRC, Delhi, and (iii) Konkan Railway. There are five Deputy Commissioners of Railway Safety posted in the Headquarters at Lucknow for assisting the CCRS. In addition, there are two field Deputy Commissioners, one each in Mumbai and Kolkata, to assist the Commissioners of Railway Safety in matters concerning the Signaling and Telecommunication discipline.

1.2.2 In Appendix I, at the end of this Report, given is an Organizational Chart of the Commission of Railway Safety. A brief narrative on the history and functions of the organization, which dates back to the 19th century, is contained in Appendix II.

### 1.3 JURISDICTION

The route kilometrage of the Railway Administrations under the jurisdiction of each circle, as on 31st March, 2009 were as under:-

NAME OF CIRCLE	HEADQUARTERS	ROUTE KM.	PRINCIPAL RAILWAYS
Central Circle	Mumbai	7587.040	Central/W.C. Rly.
Eastern Circle	Kolkata	5957.788	Eastern / East-Central Rly.
Northern Circle	New Delhi	6934.500	Northern Rly.
North Eastern Circle	Lucknow	6505.775	North Eastern/ North Central
Northeast Frontier Circle	Kolkata	3774.190	Northeast Frontier Metro Rly. Kolkata.
Southern Circle	Bangalore	8336.000	Southern/South Western Railway
South Central Circle	Secunderabad	5748.905	South Central
South Eastern Circle	Kolkata	7650.871	South Eastern/ S.E.C. Rly/ East Coast
Western Circle	Mumbai	12,076.449	Western / North-Western

**Note:** In addition to the Principal Railways, the Commissioners exercise jurisdiction over Konkan Railway Corporation, various Metropolitan Rail Transport Projects, Delhi Metro and Port Trust Railways, if any, located within their circles.

### 1.4 POSITION OF VACANCIES IN THE COMMISSION

As on 31.3.2009 the actual strength of the Commissioners was 6 against the sanctioned posts of 9. The strength of Deputy Commissioners was 7 and there was one vacancy. The Details are at Appendix-I.

## **CHAPTER-II**

### **ANALYSIS OF TRENDS OF ACCIDENTS**

#### **2.1 TRAIN ACCIDENTS:**

The term 'train accidents' discussed in this Report has the following definitions:-

- 2.1.1 **Consequential train accidents** - are all accidents occurring to trains in the course of working of a Railway and include Collisions, Derailments, Fires in Trains and Running into obstructions or road traffic at Level Crossings.
- 2.1.2 **Section 113 Accidents** - are those railway accidents, referred to in Section 113 of the Railways Act 1989, which occur in the course of working a Railway and are attended with loss of human life or with grievous hurt (as defined in the Indian Penal Code) or with serious injury to property. They also include any collision between trains of which one is a train carrying passengers, derailment of a train carrying passengers, any accident of a description usually attended with loss of human life, grievous hurt or serious damage to property and accident of any other type which the Central Government may notify in the official Gazette.
- 2.1.3 **Reportable Accidents** - are the same as those referred to in Section 113 of the Railways Act 1989.
- 2.1.4 **Serious Train Accidents** - are those accidents requiring a Statutory Inquiry to be conducted by the Commission of Railway Safety in terms of Section 114 of the Railways Act 1989 and include every accident to a train carrying passengers, which is attended with loss of human life, or with grievous hurt (as defined in the Indian Penal Code) to a passenger or passengers in the train or with serious damage to railway property of value exceeding Rs. 25 lakhs. Any other accident which, in the opinion of the Chief Commissioner of Railway Safety or the Commissioner of Railway Safety, requires the holding of an inquiry shall be deemed to be an accident of this category.

#### **2.2 TRENDS IN CONSEQUENTIAL TRAIN ACCIDENTS**

- 2.2.1 The incidence of consequential train accidents (both Goods and passenger trains) and passenger fatalities in passenger train accidents in the past 10 years from 1999-2000 to 2008-2009 are shown in Figure 1 and Figure 2 respectively\*. The details relating to

the total number of consequential train accidents, with the break-up of goods train accidents and passenger train accidents are shown in Figure 1. There is decrease in no. of passenger train accidents during 2008-09. The total number of consequential train accidents per million train-kilometers and the number of passenger fatalities in passenger train accidents are shown in Table 1 in Para 2.2.2 below.

*\* All Figures are placed at the end of Chapter-II*

## 2.2.2 TABLE 1

### COMPARATIVE FIGURES OF CONSEQUENTIAL TRAIN ACCIDENTS IN THE PAST TEN YEARS

(Refer Figure 1)

Item	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09
1. Total No. of Consequential Train Accidents	463	473	414	351	325	234	234	195	194	<u>177</u>
2. No. of Passenger Train Accidents (out of 1 above)	210	261	218	216	214	154	167	144	125	<u>112</u>
3. No. of Goods Train Accidents (out of 1 above)	253	212	196	135	111	80	67	<u>51</u>	69	65
4. Total no. of Consequential Train accidents Per million train-Kilometers	0.65	0.67	0.55	0.44	0.41	0.30	0.28	0.23	0.22	<u>0.20</u>
5. No. of Passenger Fatalities Including Railway crew In serious Train Accidents	374	<u>63</u>	99	186	139	55	177	302	37	64

**Note.** - Best figures have been underlined.

2.2.3 It would be seen from Table 1 that the no. of consequential train accidents has decreased from 194 in 2007-2008 to 177 in 2008-2009. The number of goods train accidents has decreased from 69 in 2007-08 to 65 in 2008-2009. This increase is 5.79 %. The

Passenger train accidents have decreased by 10.4% during the year under review. (C.f. 2007-2008).

2.2.4 Most of the consequential train accidents result in minor consequences, such as minor damage or derailment to Rolling Stock. However, there are some consequential train accidents which come under the category of Sec. 113 accidents. These Section 113 Accidents include the serious train accidents requiring Statutory Inquiry by the Commission of Railway Safety. The trends of serious consequential train accidents are analyzed in Para 2.3 below.

### **2.3 TRENDS IN SECTION 113 ACCIDENTS & SERIOUS TRAIN ACCIDENTS**

2.3.1 The figures of total number of consequential train accidents, Sec. 113 accidents, serious train accidents including train accidents resulting in fatalities to passengers (including Railway Staff) travelling in trains (as distinct from other fatalities, such as, those occurring among trespassers, Level Crossing Road users etc.) For the last 5 years are compared in Table 2 below:

**TABLE 2**

Sr. No.	Year	Total No. of Consequential Train Accidents	Sec.113 Accidents	Serious Train Accidents requiring Statutory Inquiry	Serious Train accident resulting in passenger fatalities	Total No. of passenger fatalities
1.	2004-2005	234	176	<u>19</u>	<u>04</u>	55
2.	2005-2006	234	185	23	07	177
3.	2006-2007	195	173	25	07	302
4.	2007-2008	194	174	25	11	<u>37</u>
5.	2008-2009	<u>177</u>	<u>154</u>	24	08	52
Average for 5 years		206.8	172.4	23.2	7.4	124.6

*Note: (Best figures underlined)*

2.3.2 Section 113 accidents have increased by 11.49% in 2008-2009. The number of serious train accidents requiring statutory enquiry has decreased to 24 in 2008-09 as compared to 25 in 2007-08.

The number of serious train accidents resulting in passenger fatalities has decreased from 11 in 2007- 2008 to 08 in 2008-2009. However in 2008-09 no. of fatalities has increased to 52 from 37 in 2007-08.

## **2.4 RAILWAY-WISE TRENDS OF CONSEQUENTIAL AND SECTION 113 ACCIDENTS**

2.4.1 The number of consequential and Sec 113 accidents which occurred in each zonal railway in the years 2007-08 and 2008-2009 is shown in Table 3 below:

**TABLE 3**

	Railway	Total No. of Consequen- tial train accidents		Total No. of Section 113 train accidents	
		2007-2008	2008-2009	2007-2008	2008-2009
1.	Central	5	9	3	7
2.	Eastern	3	8	3	5
3.	East Central	10	17	10	13
4.	East Coast	16	12	13	11
5.	Northern	24	21	22	18
6.	North Central	13	15	13	15
7.	North Eastern	16	20	16	18
8.	Northeast Frontier	11	4	8	4
9.	North Western	14	14	14	13
10.	Southern	12	9	12	8
11.	South Central	12	11	12	10
12.	South East Central	8	4	8	4
13.	South Eastern	15	10	9	8
14.	South Western	14	5	14	5
15.	Western	12	11	8	10
16.	West Central	8	7	8	5

17.	Kolkata Metro	--	-	-	-
18.	Konkan Rly. Corp.	1	-	1	-
19.	Delhi Metro	-	-	-	-
<b>Total</b>		<b>194</b>	<b>177</b>	<b>174</b>	<b>154</b>

## **2.5 ANALYSIS OF TYPES OF CONSEQUENTIAL TRAIN ACCIDENTS**

Figure 3 depicts a chart showing the break-up of total number of consequential train accidents in the years 2007-2008 & 2008-2009 into various types of accidents. It would be seen that derailments account for a major chunk of the total number of consequential train accidents, being 48.03% in 2008-2009 against 51.55% in 2007-08. Level crossing accidents are next accounting for 38.98% in 2008-2009 against 39.69% in 2007-2008. Collisions account for 7.34% in 2008-2009 against 4.12% in 2007-2008. Fire in trains account for 1.69% accidents in 2008 -2009 against 2.58% in 2007 - 08. Number of other accidents (Miscellaneous Accidents) account for 3.96 % of the total accidents in 2008- 2009 against 2.06% in 2007- 08.

## **2.6 CAUSE-WISE ANALYSIS OF VARIOUS TYPES OF TRAIN ACCIDENTS**

### **2.6.1 CAUSE-WISE ANALYSIS OF DERAILMENTS**

At figure 4 is shown a cause-wise analysis of the total number of derailments in the years 2008-2009 & 2007-2008. Rolling Stock defects and Failure of Workshop, Carriage & Wagon and Loco Maintenance Staff account for 17.65% derailments in 2008-2009 as compared to 21.14% in the year 2007-2008. Track defects & Failure of Permanent Way Staff account for 18.83% in 2008-2009 as against 25% in 2007-2008. Other causes also account for 35.29% in 2008-2009 against 48% in 2007-08. Errors by Drivers including Motormen caused 9.41% of derailments in 2008-2009 against 4% in 2007-2008. Sabotage accounted for 15.30% in 2008-2009 against 7% in 2007-2008. Signaling Equipment defects and failure of Signaling Maintenance Staff are NIL in 2008-2009 and in 2007-2008. Cause could not be established are 3.52% for the year 2008-09.

The term 'other causes' includes failure of station staff, commercial staff in charge of loading wagons, natural causes like floods and falling boulders, crossing of track by animals, combination of failure of staff of more than one Department, persons other than Railway staff and those under investigation.



The comparative number of derailments is as follows:-

<b>2007-2008</b>	<b>100</b>
<b>2008-2009</b>	<b>85</b>

There is a 15 % decrease in the number of derailments in 2008-2009 compared to 2007-2008.

## **2.6.2 CAUSE-WISE ANALYSIS OF COLLISIONS**

Figure 5 shows the cause-wise analysis of the collisions during 2007-2008 & 2008-2009. Failures of Drivers, including Motormen, accounted for 84.62% of the collisions in 2008-2009 against 75% in 2007-2008. Failures of station staff accounted 7.69 in 2008-2009 against Nil in 2007-2008. Failure of Other Staff accounted for Nil in 2008-2009 and 2007-08. Failure of combination of staff accounted for 7.69% in 2008-2009 against 12.5% in 2007-08.

The comparative number of collisions is as follows:-

<b>2007-2008</b>	<b>8</b>
<b>2008-2009</b>	<b>13</b>

There is a 38.46 % increase in the number of collision in 2008-2009 compared to 2007-2008.

## **2.6.3 ANALYSIS OF ACCIDENTS AT LEVEL CROSSINGS**

Shown in Figure 6 is the cause-wise analysis of train accidents at level crossings in the years 2007-2008 & 2008-2009. There were 69 no. of accidents on level crossings during the year 2008-2009 against 77 in 2007-2008. Failure of railway staff accounted for 10.15% of the accidents in 2008-2009 against 12.98% in 2007-2008, while failure of road users was responsible for 89.85% of the accidents in 2008-2009 as against 87.02% in 2007-2008.

The principal cause of accidents at level crossings, thus, continues to be the negligence of road users at level crossings and there has not been significant decrease in such accidents, in spite of various publicity measures adopted by Railway administration.

## 2.6.4 CAUSE-WISE ANALYSIS OF FIRES IN TRAINS

Figure 7 shows the cause-wise analysis of fire accidents in trains during 2007-2008 & 2008-2009. During 2008-2009, there were 03 fire accidents in trains, 02 being attributed to outsider negligence and 1 case was accidental. In the year 2007-2008 there were 5 cases of fire accidents in the trains, 02 being attributed to negligence of Railway Staff and 02 cases were due to Passenger & outsider negligence.

## 2.7 INCIDENCE OF HUMAN FAILURE IN TRAIN ACCIDENTS

2.7.1 The incidence of human failure (both Railway and other than Railway Staff) in the consequential train accidents is reflected in Table 4:-

**TABLE - 4**

S. No.	Item	2007-2008	2008-2009
1.	Total No. of consequential Train Accidents	194	177
2.	No. of Consequential train accidents due to failure of Railway Staff.	85	73
3.	No. of consequential train accidents due to failure of other than Railway Staff.	81	75
4.	No. of consequential train accidents due to human failure (2+3)	166	148
5.	% of consequential train accidents due to failure of Railway Staff (2 divided by 1)	43.81	41.23
6.	% of consequential train accidents due to Human failure (Both Railway and other than Railway Staff) (4 divided by 1)	85.56	83.61

2.7.2 It would be seen from Table 4 that the no. of consequential train accidents has decreased from 194 in 2007-2008 to 177 in 2008-2009. The percentage of consequential train accidents, attributable to failure of Railway Staff has decreased to 41.23% in 2008-2009 to 43.81% in 2007-2008. The failure of human element comprising both Railway Staff as well as other than Railway Staff such as road users, passengers, miscreants etc., was responsible for 83.61% of consequential train accidents in 2008-2009 against 85.56% in 2007-2008. The failure of human element thus continues to be the largest single cause of accidents.

2.7.3 The term 'Failure of Railway Staff' refers to failure of various categories of staff in charge of both train operation and maintenance. The break-up of such staff responsible for the consequential train accidents in 2008-2009 is shown in Table 5 below:-

**TABLE 5**

No.	Type of Staff	Consequential train accidents Attributable to Railway staff	
		Nos.	Percentage of total no. of Consequential train accidents
1.	Permanent Way Maintenance Staff	20	11.29
2.	Driving Crew (including Motormen)	20	11.29
3.	Workshop, Carriage and Wagon And Loco Maintenance Staff.	15	8.48
4.	Station Staff	8	4.52
5.	Signaling Maintenance Staff	-	-
6.	Other Staff (Commercial Staff in charge of loading, Guards and others)	3	1.70
7.	Combination of failures of Staff	6	3.38
8.	Electrical maintenance staff	1	0.57
<b>Total</b>		<b>73</b>	<b>41.23</b>

2.7.4 The figures in Table 5 above reveal that the Permanent Way Maintenance staff was responsible for the largest number of consequential train accidents due to failure of Railway Staff, at 20 (11.29% of total consequential train accidents). Combination of Staff accounted for 6 accidents i.e. 3.38% of consequential accidents. Driving Crew caused 20(11.29%) accidents. Workshop, Carriage and Wagon and Loco Maintenance Staff were responsible for 15 (8.48%) accidents, station staff were responsible for 8 (4.52%) accidents while Signalling Staff caused nil accidents. Other Staff accounted for 3 (1.70%) accidents and Electrical maintenance staff was responsible for 1 (0.57%) accidents.

## **2.8 LOSS OF RAILWAY ASSETS IN ACCIDENTS:**

The total estimated cost of damage to railway assets resulting from all consequential train accidents was Rs. 43.74 crores in the year 2008-2009 as compared to Rs.36.52 crores in the year 2007-2008.

## CHAPTER – III

### INVESTIGATION INTO ACCIDENTS

#### 3.1 PREAMBLE

Among the statutory duties carried out by the Commissioners of Railway Safety, one of the main duties is the statutory investigation into railway accidents. The rules for the guidance of officers of the Commission of Railway Safety in holding Inquiries into railway accidents are contained in 'Statutory Investigation into Railway Accidents Rules 1998' notified by the Ministry of Civil Aviation. Extracts of the rules and procedures for holding statutory investigations are contained in Appendix III.

#### 3.2 STATUTORY INQUIRIES HELD IN 2008-2009

**3.2.1** During the year, 24 serious accidents required inquiry by the Commission in terms of Section 114 of the Railways Act 1989 which are detailed in Appendix IV. Out of these 24 accidents, 6 were collisions between trains, 3 were derailments, 4 involved collision of trains with road vehicles at Level Crossings and 8 were unusual occurrences , 2 were due to fire and 1 was due to explosion in train.

**3.2.2** Of the 24 accidents, the following accidents attracted considerable attention of the media :-

**a) Para 7 of Appendix IV** :- Head-on collision between two multiple unit light locomotives between Ghorpuri Yard and Hadpsar Station near gate no. 68 of Pune Division of Central Railway on 07.07.2008. As a result of the accident 3 persons were killed, 1 person was grievously injured and 1 sustained simple injuries. All are Railway Crew.

**b) Para 23 of Appendix IV** Head on collision of 530 down Gorakhpur – Muzaffarpur passenger with train Engine of 405 up Raxaul – Sagauli passenger at Sagauli station of Samastipur Division of East Central Railway on 14.02.2009. As a result of the accident 2 passengers were grievously injured and 20 passengers sustained simple injuries.

**3.2.3** Brief details of the 24 accidents inquired into by the Commission during 2008-2009 along with important recommendations made, are at Appendix - IV.

## **CHAPTER - IV**

### **INSPECTION AND OTHER FIELD DUTIES**

#### **4.1 INSPECTION OF NEW LINES:**

During the year 2008-2009, the Commissioners of Railway Safety carried out inspections of new lines and other works, prior to authorizing them for public carriage of passengers, as detailed below:

a) New Lines	578.905 km
b) Diversions	4.360 km.
c) Doublings	319.146 km.
d) Conversion of Gauge	1162.032 km.
e) Initiation of electric traction	366.079 km.

A list of these works appears at Appendix V.

#### **4.2 NEW MINOR WORKS:**

4.2.1 Structural works affecting the safety of trains on running lines, such as, provision of additional bridges, rebuilding or re-girdering of existing bridges, re-modeling of station yards, re-signaling works etc. can only be carried out after duly obtaining the sanction of the Commissioner of Railway Safety. Such works, after being sanctioned by the Commission, are executed by the Railway Administration and opened to traffic under safety certificates signed by the concerned railway officers, unless the Commissioner of Railway Safety decides to inspect them before being commissioned.

4.2.2 During the year, 3432 such works were sanctioned by the Commission of Railway Safety.

#### **4.3 WORKS INVOLVING INFRINGEMENTS OF STANDARD DIMENSIONS:**

Certain minimum and maximum dimensions for location of structures near railway lines and maximum and minimum dimensions in respect of rolling stock have been prescribed and are laid down in a publication called "Schedule of Dimensions". The Railways can not deviate from these dimensions without obtaining the sanction of the Railway Board or Commissioners of Railway Safety. During the year under review, 34 cases

for condonation of infringements to the Schedule of Dimensions were recommended by the Commission for sanction of the Railway Board. 27 cases which were within the powers of the Commissioners of Railway Safety were sanctioned by the Commissioners themselves.

#### **4.4 MOVEMENT OF OVER-DIMENSIONED CONSIGNMENTS:**

The railways have sometimes to transport various types of heavy machinery the dimensions of which are in excess of the prescribed maximum moving dimensions. Movements of some of these consignments require the sanction of the Commissioner of Railway Safety. During the year, transport of 24 over-dimensioned consignments was authorized for movement by the Commissioners of Railway Safety after due scrutiny, subject to observance of such conditions and speed restrictions as were considered necessary.

#### **4.5 NEW TYPES OF LOCOMOTIVES AND ROLLING STOCK:**

According to Section 27 of Railways Act, 1989, new rolling stock, such as, locomotives, coaches and wagons can only be used after prior sanction by the Railway Board. During the year, 107 new types of locomotives and other rolling stock were recommended by the Commission, in various sections, for sanction by the Railway Board. According to extant rules, the Commissioners of Railway Safety can authorize movement of new rolling stock on sections of the railway provided the previous sanction of the Railway Board has been obtained for their movement anywhere in the Railway system. During the year, 205 such cases were sanctioned by the Commissioners under their powers.

#### **4.6 PERIODIC INSPECTIONS:**

During the year, the Commissioners carried out periodical inspections of 11,451.515 kms. Of Govt. railways either on their own or in the company of the Zonal Railway General Managers. Significant defects and deficiencies noticed during inspections were discussed with the Railway Officers during such periodic inspections and inspection reports were issued.

## **CHAPTER V**

### **REMARKS ON SOME IMPORTANT ISSUES**

#### **5.0 PREAMBLE.**

The Commission has been raising important issues pertaining to railway safety and train operation in the Annual Reports inviting attention of the Railway Board. In the Annual Report of 2007-08, the following five issues were discussed:

- (i) Running of Shatabadi Express train on New – Delhi-Palwal-Agra Cant. Section at a maximum speed of 150 kmph. ((Item initially raised in the Annual Report of the year 2005-06)
- (ii) Foundation details and completion drawings of bridges (item initially raised in the Annual Report of the year 2002-03 and 2004-05)
- (iii) Determination of final maximum permissible speed by RDSO for new designs of rolling stock. (item initially raised in the Annual report 1999-2000 as well as on 2001-02)
- (iv) Vestibuling of coaches in EMUs.
- (v) Fire on trains.

#### **5.1 HIGH SPEED TRAINS.**

Regarding running of train at speed higher than 130 kmph, the Commission in its earlier communication to the Ministry of Railways has not favoured running of trains at speeds higher than already permitted in absence of adequate preparations such as measures to prevent trespassing and provision of automatic train protection systems etc.

In the annual Report of 2007-08, the Commission felt that blue print of high speed service may be prepared along with integrated safety plan, suitable infrastructure may then be accordingly provided. In this connection Ministry of Railway advised that they have formed a steering committee with executive Director/Planning as convener and Executive Directors of different departments for pre-feasibility study of

high speed corridors. Safety plans to run trains even speeds higher than 160 kmph will be defined and RDSO will be advised to develop scientific methodology suitable to that defined speed.

### **Commission's View:**

High speed rail as defined by European Union means speed of 200 kmph and faster and 145 kmph by U.S. Federal Rail Road Administration. While primarily designed for passenger travel some high speed systems can also be utilized for freight services specially postal freight. Much of the technology behind high speed rail, in various countries involves application of well developed standard gauge rail technology using over head electrification. The safety features involve elimination of level crossing, frequent stops, sharp curves, reverse curves etc. High speed corridor should be assigned exclusive right of the way. The Commission would like to associate at the policy planning stage for running of high speed train to adequately address safety related issues and desires that only after adequate preparations running of the high speed trains should commence.

### **Comments of Ministry of Railway:**

LHB design stock already available with Indian Railways is cleared for running up to 160 kmph on Rajdhani Standard Track (C&M-I Vol.Std.). This is further upgradeable with minor design inputs and refinements, Indian Railways has a fleet of 22 WAP-5 locomotives equipped with 3 phase technology based at ELS/GZB/Northern Railway which are being manufactured at CLW and are fit to work trains at commercial speed upto 160 kmph and have potential to go upto 200 kmph with change in gear ratio. The production of these locos is progressively increased at CLW. These locos are regularly deployed to haul Shatabdi trains upto 150 kmph. Increasing the speed of trains further to 160 kmph does not appear to pose any difficulty except that maintenance requirement of electric locos may go up. To ensure safety of trains at high speeds by minimizing dependence on loco pilots, on board technological aids like TPWS will be required. For speeds beyond 160 kmph there may be need for dedicated and protected corridor so as to avoid run-over's along with technological back-ups for safe operation.

As far as availability of rolling stock is concerned, IR has a fleet of 99 WDP 4 locomotives manufactured at DLW/Varansi. These locos have the state of art AC-AC-IGBT 3 phase technology and are fit for high speed operation upto 160 Kmph. Another variant of this loco capable of providing the hotel load and operating high speed EOG trains with a single loco or two locos on either end with radio control is being



manufactured and this combination will be fit to haul 24 coach train at high speeds.

The commitment of Ministry of Railways as far as Safety of High speed Trains is concerned is of high order. Presently Ministry of Railways have decided only to conduct pre-feasibility studies for following six corridors in consultation with the concerned state Governments:

- (i) Pune-Mumbai-Ahmedabad
- (ii) Delhi-Chandigarh-Amritsar
- (iii) Howrah-Haldia
- (iv) Hyderabad-Dornakal-Vijawada-Chennai
- (v) Chennai-Bangalore-Coimbatore-Ernakulam
- (vi) Delhi-Agra-Lucknow-VaranasiPatna

Global tenders for appointing consultant for Pune-Mumbai-Ahmadbad and Delhi-Chandigarh-Amritsar corridors were invited. The pre-feasibility study for Pune-Mumbai-Ahmedabad corridor is at advice stage whereas the tenders for Delhi-Chandigarh-Amritsar corridor is at an advanced stage whereas the tenders for Delhi-Chandigarh-Amritsar corridor are yet to be finalized. The subject of high speed trains is at a nascent stage and Ministry of Railways agrees with the views of Commission of Railway Safety that only after adequate preparations running of high speed trains should commence on Indian Railways. Ministry of Railways would associate and involve Commission of Railway Safety at an appropriate stage of running of high speed trains.

Further Comments of the Commission:

Nil.

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**APPENDIX-I**  
(Refer Para 1.2.2)

**Circle Offices and their jurisdiction & Incumbency of Officers in the Commission**

1. **Jurisdictions of Circle Offices (as on 31.03.2009)**

	<b><u>Name of Circle</u></b>	<b><u>Headquarters</u></b>	<b><u>Route Kilometrage</u></b>
(i)	Central Circle	. . . Mumbai	7587.040
(ii)	Eastern Circle	. . . Kolkata	5957.788
(iii)	Northern Circle	. . . New Delhi	6934.500
(iv)	North Eastern Circle	. . . Lucknow	6505.775
(v)	Northeast Frontier Circle	. . . Kolkata	3774.190
(vi)	Southern Circle	. . . Bangalore	8336.000
(vii)	South Central Circle	. . . Secunderabad	5748.905
(viii)	South Eastern Circle	. . . Kolkata	7650.871
(ix)	Western Circle	. . . Mumbai	12076.449

**Note:** Northeast Frontier Circle's jurisdiction includes 16.450 km.of Metro Railway/Kolkata.  
Central Circle's jurisdiction includes 740.28 Kms. of Konkan Railway and Northern Circle's Jurisdiction includes 64.83 Kms. of Delhi Metro.

2. **Incumbency of Officers in the Commission** (1.4.2008 to 31.3.2009)

2.1 **Headquarters Office, Lucknow**

(i) Chief Commissioner	01.4.2008 to 31.05.2008	Shri Pranab Kumar Sen
	01.06.2008 to 31.03.2009	Shri R.P. Agarwal
(ii) Deputy Commissioner (General)	01.04.2008 to 07.08.2008	Shri Veer Narayan
	08.08.2008 to 31.03.2009	Vacant

**Deputy Commissioners in Technical**

**Wing/Lucknow**

(i) Operating	Full Period	Shri. Sanjay Tripathi
(ii) Electric Traction	01.04.2008 to 07.05.2008	Shri Ashutosh Pant
	08.05.2008 to 31.07.2008	Vacant
	01.08.2008 to 31.03.2009	Shri Mohit Sonakia

(iii)Signal & Telecom	Full Period	Shri P.R.Izardar
(iv)Mechanical	01.04.2008 to 15.03.2009	Vacant
	16.03.2009 to 31.03.2009	Shri Uttam Prakash
		(Adhoc arrangement)

### 2.3 **Commissioners in charge of Circle Offices**

(i) Central Circle, Mumbai	Full Period	Shri Sudhir Kumar
(ii) Eastern Circle, Kolkata	01.04.2008 to 20.08.2008	Vacant
	21.08.2008 to 31.03.2009	Shri R.P. Yadav
(iii) Northern Circle, New Delhi	01.04.2008 to 30.04.2008	Shri Bhupender Singh
	01.05.2008 to 31.03.2009	Shri R.K. kardam
(iv) North Eastern Circle, Lucknow	01.04.2008 to 30.04.2008	Shri R.K. Kardam
	01.05.2008 to 31.03.2009	Vacat
(v) Northeast Frontier Circle, Kolkata	01.04.2008 to 31.03.2009	Vacant
(vi) Southern Circle, Bangalore	Full Period	Shri K.J.S. Naidu
(vii) South-Central Circle, Secunderabad	01.04.2008 to 31.05.2008	Shri R.P. Agrawal
	01.06.2008 to 31.03.2009	Vacant
(viii) South Eastern Circle, Kolkata	Full Period	Shri Balbir Singh
(ix) Western Circle, Mumbai	Full Period	Shri Prashant Kumar

### 2.4 **Dy. Commissioners (Signalling & Telecommunications) attached to Circle Offices**

(i) Eastern Circle, Kolkata	Full Period	Shri A.K. De
(ii) Western Circle, Mumbai	Full Period	Shri R.K. Gupta

## **COMMISSION OF RAILWAY SAFETY**

### **HISTORY AND FUNCTIONS**

#### **1. Brief History**

- 1.1 To exercise effective control over the construction and operation of the first railways in India, which were entrusted to private companies, Consulting Engineers were appointed under the Government of India. Later when the Government undertook the construction of railways, the Consulting Engineers were designated as Government Inspectors. In 1883, their position was statutorily recognized. Later, the Railway Inspectorate was placed under the Railway Board which was established in 1905.
- 1.2 Under the Indian Railway Board Act, 1905 and Notification No.801 dated 24th March, 1905 of the Department of Commerce and Industry, the Railway Board was vested with powers and functions of the Central Government under various sections of the Railway Act and was authorized to make General Rules for the operation of Railways. The Railway Board is thus the Safety Controlling Authority for the working and operation of Government and Company managed railways.
- 1.3 Section 181(3) of the Government of India Act of 1935 provided that functions for securing the safety, both of the traveling public and of persons operating the railways, including the holding of inquiries into the causes of accidents, should be performed by an authority independent of the Federal Railway Authority. Due to the outbreak of the war, the constitution of the Federal Railway Authority did not materialize and the Inspectorate continued to function under the Railway Board.
- 1.4 To avoid direct subordination of the Railway Inspectorate to the Railway Board, the Pacific\* Locomotive Committee, headed by Lt. Col. A.H.L. Mount, then Chief Inspecting Officer of the British Railways, suggested in Para 210 of their report, submitted in 1939, as under:-

“We understand that, under the Govt. of India Act, 1935, it is contemplated that the Inspectorate will be separated from the control of the Railway Board. This is very desirable in so far as it will eradicate the present anomaly of the Board being the Inspecting as well as the executive Authority. We were informed that the Board fully appreciates the position, and would welcome the change, although it appears that, in practice, Government Inspectors have generally retained their freedom of judgment.....”

\* Engines with 4-6-2 configuration of wheels are called “Pacific Locos”.

- 1.5 The principle of separation of the Railway Inspectorate from the Railway Board was endorsed in 1940 by the Central Legislature who recommended that “Senior Government Inspectors of Railways should be placed under the Administrative control of some authority of the Govt. of India other than the Railway Board.” Accordingly, the Railway Inspectorate was placed under the administrative control of the Department of “Posts and Air” in May 1941 and continuously thereafter under whichever Ministry that held the portfolio of Civil Aviation.
- 1.6 The erstwhile Railway Inspectorate was re-designated as the Commission of Railway Safety on 1.11.1961.
- 1.7 The responsibility for safety in the working and operation of Railway rests solely with the Railway Board and the Zonal Railway authorities. The main task of the Commission of Railway Safety is to direct, advise and caution the Railway executives with a view to ensure that all reasonable precautions are taken in regard to soundness of rail construction and safety of train operation. The Railway Board refers to the Commission matters relating to modification or enhancement of standards in respect of operation of trains, track, locomotive, rolling stock and revision of rules embodied in the General Rules, Rules for the opening of New Lines, Manuals, IRCA Regulations, Schedules of Dimensions and other publications. Suggestions made by the

Commission of Railway Safety are duly considered by the Railway Board before necessary revisions are notified.

2. **Duties:-**

2.1 The duties of a Commissioner of Railway Safety as spelt out in Chapter III of the Railways Act 1989 are as under:-

- to inspect new railways with a view to determine whether they are fit to be opened for the public carriage of passengers, and to report thereon to the Central Government as required by or under this Act;
- to make such periodical or other inspections of any railway or of any rolling stock used thereon as the Central Government may direct;
- to make inquiry under this Act into the cause of any accident on a Railway;
- To perform such other duties as are imposed on him by this Act or any other enactment for the time being in force relating to Railways.

2.2 The term “such other duties” mentioned in Para 2.2 has been detailed in Sections 22 to 24 of the Act and covers the following:-

- sanctioning the opening of new railway lines after inspection on behalf of the Central Government;
- sanctioning the execution of all works, including new works, affecting the safety of running lines;
- when, after inspecting a line already in use or a rolling stock already authorized, the Commissioner is of the opinion that their continued use will be attended with danger to the travelling public, he may report his opinion to the Central government, who may then order the closure of the line or the discontinuance of the use of rolling stock; and

- to inspect such a closed line and sanction its re-opening for carriage of passengers and also report to the Central Govt. on the fitness for use of discontinued rolling stock.

2.3 Functional duties, including field inspections, of an Inspector of Railway, since designated Commissioner of Railway Safety, are amplified, among other technical publications, in the ;

- General Rules for all open lines of railways in India administered by the Government;
- Rules for the opening of a Railway or Section of a Railway for the public carriage of passengers;
- Indian Railways Code of practice for the Engineering department;
- Indian Railway Way, Works and Signal Engineering Manuals;
- Schedules of Dimensions;
- Conference Rules of the Indian Railway Conference Association;
- Statutory Investigation into Railway Accidents Rules, 1998
- Railway (Notices of and Inquiries into accidents) Rules, 1998

2.4 After its separation from the Railway Board in May, 1941, a post of Chief Government Inspector of Railways, later designated as Chief Commissioner of Railway Safety, was created to enable the Central Government to exercise “effective technical control”.

2.4.1 The Chief Commissioner of Railway Safety directs the activities of the Organization and is responsible for advising the Central Government in all matters relating to Railway Safety, recruitment of officers, postings and promotions,

budget and expenditure etc. The Chief Commissioner deals principally with: -

- Matters appurtenant to Field Inspections and statutory inquiries into accidents;
- Inspection Reports of Commissioners of Railway Safety;
- Reports of statutory inquiries held into accidents by the Commissioners. After careful study he forwards his considered opinion to the Controlling Ministry and the Railway Board with such recommendations as he considers necessary;
- Railway Board's suggestions pertaining to corrections or amendments to General Rules, Rules for Opening of a Railway, Schedule of Dimensions, the P. Way, Works and Signal Engineering Manuals, Procedures for inquiries into accidents, Codes of Practice for Engineering Works and other publications; and
- Preparation of the Annual Report on the working of the Commission of Railway Safety and its placement in each House of Parliament.
- All the Technical publications indicated in Para 2.4 above including others issued by Railway Board from time to time.

2.4.2 Field duties of the Chief Commissioner of Railway Safety consist of inspections of sections of Railways, visits to the Railway Headquarters and Divisional Offices, Railway installations and Circle Offices. If considered necessary by him, he may himself hold inquiries into important accidents.

\* \* \* \* \*



**STATUTORY INQUIRIES INTO RAILWAY ACCIDENTS-RULES,**  
**SCOPE AND PROCEDURE**

**1. RULES**

**1.1 Rules for Inquiry into Railway accidents:-**

Rules for the guidance of the Officers of the Commission of Railway Safety for holding inquiries into Railway accidents are contained in the “Statutory Investigation into Railway Accidents Rules, 1998” notified by the Ministry of Civil Aviation in the Gazette vide G.S.R.No. 257 dated 26.12.98 and G.S.R. No. 63, dated-02.01.99.

**1.2 When should a Statutory Inquiry be held?**

A statutory inquiry by the Commissioner is obligatory in every accident to a passenger-carrying train which is attended with loss of human life, or with grievous hurt as defined in the Indian Penal Code, to a passenger or passengers in the train or with serious damage to railway property of the value exceeding Rs. 25 lakhs. The Commissioners may also inquire into any other accident which in the opinion of the Chief Commissioner or the Commissioner of Railway Safety requires the holding of an inquiry. Where the Chief Commissioner of Railway Safety considers the holding of an Inquiry into an accident necessary, he may either hold the inquiry himself or direct the Commissioner of Railway Safety to do so.

The Inquiry shall be obligatory only in those cases where the passengers killed or grievously hurt were travelling in the train. If a person travelling on the foot-board or roof of a passenger train is killed or grievously hurt or if a person is run over at a level crossing or elsewhere on the railway track, an inquiry is not obligatory. Workmen’s trains or ballast trains carrying workmen shall also be treated as passenger trains and in the event of a workman getting killed or grievously hurt as a result of an accident to the train, an inquiry shall be obligatory.

### **1.3 Procedure when Commissioner is unable to hold an inquiry:-**

When a Commissioner is unable to hold an inquiry, he is to inform the Chief Commissioner of Railway Safety of the reasons as to why an inquiry can not be held by him. The Chief Commissioner may himself hold the Inquiry or may direct another Commissioner to inquire into the accident or else the inquiry can be entrusted to the Railway itself, who will then appoint a Committee of Railway Officers to inquire into the accident. The Committee's inquiry report is submitted to the Commissioner of Railway Safety who scrutinises it and in case he agrees with the findings, forwards it to the Chief Commissioner of Railway Safety along with his views on the findings and recommendations made. If, on the other hand, the Commissioner of Railway Safety considers that an inquiry should be held by him, he proceeds to do so.

### **1.4 When shall the Commissioner stop or discontinue his inquiry?**

Whenever the Central Government appoints a Commission of inquiry under the Commission of Inquiries Act, the Commissioner shall discontinue his inquiry.

## **2. SCOPE: -**

The Commissioner holds inquiries into accidents with a view to ascertaining the causes and fixes the responsibility thereof on the individuals concerned. Investigations are also carried out into the question whether prompt and adequate steps were taken by the railway administration for relief measures such as provision of first aid, medical treatment and refreshments to passengers, evacuation of injured passengers and other facilities like arrangements for transshipment, completion of their journey to destination, running of duplicate trains etc. As a result of his inquiry, the Commissioner may also make recommendations which are designed to prevent the recurrence of similar accidents, and which may suggest laying down new rules or modifying existing rules of working, and improved standards of signalling, installation and maintenance of track, bridges, etc. He also comments on matters observed by him during the course of his inquiry which may not have any direct bearing on the cause of the accident under investigation but which

may in some cases affect the safe working of the railway and lead to accidents.

**3. Procedure for conducting a Statutory Inquiry**

As soon as the Commissioner of Railway Safety receives intimation about the occurrence of a serious accident, he proceeds to the site, conduct inspection of the accident site and records all particulars relevant to the accident; He then fixes a date for the inquiry, which is given publicity in the media. Officers of the local Magistracy and police are separately advised of the dates of the inquiry. The public is invited to give evidence in the inquiry in person or to write to the Commissioner.

## APPENDIX-IV

### BRIEF DETAILS OF SERIOUS RAILWAY ACCIDENTS INQUIRED INTO BY THE COMMISSION OF RAILWAY SAFETY - 2008-2009

1. DASHING OF A TRACTOR TROLLEY WITH 467 UP KANPUR CENTRAL – FARRUKHABAD PASSENGER TRAIN AT CONSTRUCTION/WORK SITE BETWEEN JASODA AND GURSAHAI GANJ STATIONS OF IZZATNAGAR DIVISION OF NORTH EASTERN RAILWAY ON 09.04.2008.
  - A) CAUSE : DUE TO INFRINGEMENT BY THE TRACTOR TROLLEY CAUSED BY NEGLIGENT DRIVING OF THE DRIVER OF THE TRACTOR TROLLEY.
  - B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY - 10(PASSENGERS), SIMPLE INJURY - NIL
  - C) COST : 35,136/-.
  - D) CATEGORY : FAILURE OF PERSON OTHER THAN RAILWAY STAFF.

#### RECOMMENDATIONS

1. Regular drives should be launched by North Eastern Railway Administration to inculcate safety sense among the Railway Official, contractors and their workmen and for ensuring safety of track, trains/engines, passengers, labor staff etc. at construction/work site by observing various precautions while working in the vicinity/adjacent to track.
2. At all construction/work sites where road vehicles or machinery can come close to the railway track, the Railway track should be protected by providing suitable, properly designed semi-permanent fencing alongside the track for which the approved plans and instructions should be issued by North Eastern Railway Administration.
3. North Eastern Railway Administration should ensure that the sanction of the Commissioner of Railway Safety is taken before the minor works are commenced. No work should be started unless CRS sanction is obtained for the works.

2. UNUSUAL OCCURRENCE OF INJURIES SUSTAINED BY A PASSENGER SEATED IN S 9 COACH OF 0895 HOWRAH – PURI SPECIAL DUE TO A DUMPER NEGOTIATING TOO CLOSE TO UP LINE CAUSING INFRINGEMENT AND GRAZING COACHES OF THE PASSING TRAIN AT GOPALPUR – BALIKUDA STATION YARD OF KHURDA ROAD DIVISION OF EAST COAST RAILWAY ON 01.05.2008.

- A) CAUSE : DUE TO A DUMPER LOADED WITH MOORUM ON RVNL DUTY NEGOTIATING TOO CLOSE TO UP LINE CAUSING INFRINGEMENT AND GRAZING/ DAMAGING 21 COACHES OF THE PASSING TRAIN AT GOPALPUR BALIKUDA STATION YARD.
- B) CASUALTIES : KILLED - NIL, GRIEVOUS INJURY : 1 (PASSENGER), SIMPLE INJURY :- NIL
- C) COST : 14,00,000/-.
- D) CATEGORY : UNUSUAL INCIDENT /OCCURRENCE

#### **RECOMMENDATIONS**

1. Sturdy barricades as being used for execution of rail/ road/ tramway works in metropolitan cities to cordon off and secure the work area free from trespass should be prescribed.
2. Agency entrusted with the execution of works entrusted by the Railway/ Authority concerned in close proximity to open line should apply seeking permission for taking over the site for the purpose to appropriate Railway Official specifying the measures / arrangements so as to ensure safety of train operation with certification of the same by the Official/ Consultant responsible for supervision of the works for adequacy of measures/ arrangement proposed. Railway Official shall satisfy himself of the proposed measures and arrangement before according the permission and handing over the site for execution of works. Agency entrusted with the works for execution shall remain primarily responsible for ensuring the safety of train operation till completion and handing over of works and clearance of site. Railway to take action accordingly.
3. Agency entrusted by the RVNL for execution of doubling works and Project Management Consultant (PMC) entrusted with the supervision and compliance of safety instructions have failed inflicting grievous injury to a lone passenger seated in S 9 coach and damages to the Railway Property and loss of revenue due to laying off of 21 coaches of 0895 Summer Special. Compensation paid/ payable to the injured and damages to the

coaches including loss of revenue should be realized from the erring Firms in terms of the provisions of the agreement.

3. DASHING OF A TRUCK WITH 5610 DN AVADH ASSAM EXPRESS TRAIN AT UNMANNED LEVEL CROSSING NO. 95-C BETWEEN NARAYANPUR ANANT AND SILOUT STATIONS OF SONPUR DIVISION OF EAST CENTRAL RAILWAY ON 05.06.2008.

- A) CAUSE : DUE TO THE NEGLIGENT DRIVING BY THE DRIVER OF THE TRUCK.
- B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY – 8 (PASSENGERS), SIMPLE INJURY - 7 (PASSENGERS)
- C) COST : 78,943/-.
- D) CATEGORY : FAILURE OF PERSON OTHER THAN RAILWAY STAFF.

**RECOMMENDATIONS**

1. In view of the 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 users on unmanned level crossings. Drivers of tractor-trolleys, tractor-thrashers, trucks etc. should also be checked for their knowledge regarding provisions of Section 131 of Motor Vehicles Act 1988 and counseled.
  2. Railway Administration must ensure that the various types of level crossing indicators, speed breakers, as required to be provided at unmanned level crossing gates are provided as per the laid down norms and standards.
  3. Railway must ensure proper upkeep of records of inspection of unmanned level crossings.
  4. The already sanctioned work of manning of this level crossing gate No. 95-C be completed at the earliest.
4. DASHING OF A TRACTOR TROLLEY WITH 318 DN. DARBHANGA-KATI HAR PASSENGER TRAIN AT CONSTRUCTION/WORK SITE BETWEEN SAHEBPUR KAMAL UMESH NAGAR STATIONS OF SONPUR DIVISION OF EAST CENTRAL RAILWAY ON 08.06.2008.

- A) CAUSE : DUE TO INFRINGEMENT BY THE TRACTOR TROLLEY CAUSED BY NEGLIGENT DRIVING BY THE DRIVER OF THE TRACTOR TROLLEY.
- B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY - 7 (PASSENGERS), SIMPLE INJURY - 5
- C) COST : NIL
- D) CATEGORY : FAILURE OF OTHER THAN RAILWAY STAFF.

### **RECOMMENDATIONS**

1. Action should be taken to improve general safety awareness and consciousness among the railway officials including the train operation staff. For this regular drives should be launched by East Central Railway Administration.
  2. Intensive checks and monitoring of all the loco pilots, assistant loco pilots and guard of the trains in East Central Railway should be undertaken for their alertness. For this regular drives should be launched by East Central Administration.
  3. At all construction/work sites where road vehicles or machinery can come close to the railway track, the railway track should be protected by providing suitable, properly designed semi-permanent fencing alongside the track for which the approved plans and instructions should be issued by East Central Administration.
5. UNUSUAL OCCURRENCE OF FALLING OF ROOF OF PLATFORM NO. 1 SHED ON COACH NOS. 72366 AND 72367 OF BL – 07 EMU SUBURBAN LOCAL TRAIN AT AMBERNATH STATION OF MUMBAI DIVISION OF CENTRAL RAILWAY ON 04.07.2008.
- A) CAUSE : DUE TO POOR STANDARDS OF ENGINEERING MAINTENANCE OF STEEL STRUCTURE OF COVER OVER PLATFORM, COMBINED WITH PLACING OF 30 AC SHEETS ON THE PURLINS.
- B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY - 1 (PASSENGERS), SIMPLE INJURY - NIL
- C) COST : 2,15,500/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF AND FAILURE OF OTHER THAN RAILWAY STAFF.

## **RECOMMENDATIONS**

1. The Departmental Inquiry in such unusual failures should be meticulously conducted to avoid future reoccurrences.
  2. Sr.DEN(Co) should investigate the issue of entering the inspection notes of the year 2007 and 2008, in the Maintenance register, in back date, after the incident.
  3. The Branch Officers should evolve a system to ensure that the scheduled inspections of light structures as COP and FOBs are carried out by the concerned officers and inspectors. Sr.DEN should ask for a Certificate of zero missing fittings in light structures as COPs/FOBs from ADEN and SSE(W), each year.
  4. The Railway Board is requested to instruct RDSO to recreate the calculations of design of COP steel structures, to PCEs to ensure that their team properly inspects the light steel structures and CAO(C) to pay due attention at the stage of fabrication of COPs.
6. DASHING OF TRUCK BY 4059 UP DELHI-JAISALMER EXPRESS AT UNMANNED LEVEL CROSSING NO. C-128 BETWEEN UMED AND SATHIN ROAD STATIONS OF JODHPUR DIVISION OF NORTH WESTERN RAILWAY ON 06.07.08.
- A) CAUSE : DUE TO NEGLIGENT DRIVING BY THE DRIVER OF TRUCK.
- B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY - 8 (7 PASSENGERS, 1 OUTSIDER). SIMPLE INJURY- 19 (PASSENGERS)
- B) COST : 3,75,600/-.
- C) CATEGORY : FAILURE OF PERSON OTHER THAN RAILWAY STAFF.

## **RECOMMENDATIONS**

1. Railway should arrange manning of those level crossings, where work of infrastructure for manned working, has been completed.
2. Railway should ensure that sanctioned level crossings are manned within two years of their sanction.



7. HEAD-ON COLLISION BETWEEN TWO MULTIPLE UNIT LIGHT LOCOMOTIVES BETWEEN GHORPURI YARD AND HADPSAR STATION NEAR GATE NO. 68 OF PUNE DIVISION OF CENTRAL RAILWAY ON 07.07.2008.

- A) CAUSE : DUE TO MISMANAGEMENT OF LOCOMOTIVE CONTROLS BY THE TRAIN CREW.
- B) CASUALTIES : KILLED – 3 (RAILWAY CREW) , GRIEVOUS INJURY - 1 (RAILWAY CREW). SIMPLE INJURY- 1 (RAILWAY CREW)
- C) COST : 98,02,800/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF.

#### **RECOMMENDATIONS**

1. Nomination order of Loco Inspectors may be issued along with promotion Order of ALP/LP.
  2. Quality of training of the LP/ALP should be improved by strengthening infrastructure and methodology.
  3. Since microprocessors are provided in the locomotives, technology should be so upgraded that even by wrong operations on control panel of locomotive by some person, unsafe conditions are not created.
8. INCIDENT OF FIRE IN 5 COACHES OF TRAIN NO. 2738 DN GOUTAMI EXPRESS BETWEEN KESAMUDRAM - TADLAPUSAPALLI STATIONS OF SECUNDERABAD DIVISION OF SOUTH CENTRAL RAILWAY ON 01.08.2008.

- A) CAUSE : PRESENCE OF INFLAMMABLE MATERIAL IN S-10 COACH.
- B) CASUALTIES : KILLED – 31 (PASSENGERS), GRIEVOUS INJURY - 1 (PASSENGER). SIMPLE INJURY - 10 (PASSENGERS)
- C) COST : 1,98,94,900/-.
- D) CATEGORY : FAILURE OF PERSON / PERSONS OTHER THAN RAILWAY STAFF.

## RECOMMENDATIONS

1. The Door and the handle design for the coaches requires three operations of opening of top and bottom latches and operating the door handle and so it becomes cumbersome to open the door in case of emergency. It should be modified and made simpler for opening the doors from inside the coach. In addition, the material of the handle and the latches should be modified having thermal insulating properties so that it is possible to grab the handle even when the coach is afire. The clearance between door and door frames should be increased to avoid the possibility of the doors getting jammed due to heating, with suitable flexible lining provided to fill up the gap.

Fire barriers should be provided in between alternate passenger bays and between coaches to contain/regulate the rate at spread of fire, so that passengers get more time to detrain.

2. Fire extinguishers and On-board Fire Detection-cum-Alarm System with fire alarm to passengers and indication to loco pilot cab should be provided in all types of coaches for all passenger carrying trains including passenger, mail and express trains. It is essential to provide alarm to the crew as seen as possible in order to stop the train on time, so that the passengers can disembark before the fire gets severe. Fire extinguishers on board coaches shall also help to contain the fire till such a time the train stops. Utilization of existing water in the water tanks on the coaches to suppress the fire in the gangway area may also be explored.
3. Fire protective accessories should be provided for the crew as part of emergency tool kit to help them in performing the uncoupling of coaches as well as rescue work in case of fire. Similar set of accessories should also be provided in MRV/ARTs so that the railway staff involved in rescue/relief work can carry out the work safely.

Suitable pumps and hoses may be provided in MRV/ARTs for extinguishing the fire in case of emergency with water available in nearby water sources. This will allow the fire control exercise to begin early in cases of locations not accessible by road.

4. Water mist arrangement for extinguishing fire should be provided on all the passenger coaches.
5. Information about the location of emergency exit windows and its operation should be provided through Public Address System, Display Boards at the station, tickets and other media. The onboard train staff also may be suitably trained and asked to open the emergency windows in case of accident.

6. At present the material used in the coaches is decided based on their individual fire-retardant, toxicity etc. It is desirable that a comprehensive fire load study, based on all the components of the coach as a whole, for all type of coaches should carried out and the material specification used for the coaches finalized on the basis of the study of total fire load of the coach similar to practices as adopted by UIC.
7. The CCTV should be provided with proper backup for regular retrieval of data. The data for CCTV must be stored for a minimum period of 72 hrs.
9. SIDE COLLISION BETWEEN A LORRY WITH TRAIN NO. 387 DOWN COIMBATORE – MANGALORE PASSENGER BETWEEN PONDANUR JN – MADUKARAI STATIONS OF SALEM DIVISION OF SOUTHERN RAILWAY ON 05.08.2008.
  - A) CAUSE : DUE TO DRIVER OF THE LORRY TDB – 7457 LOSING CONTROL OF HIS VEHICLE AND HITTING AGAINST 6<sup>TH</sup> COACH OF 387 PASSENGER.
  - B) CASUALTIES : KILLED – 2 (OUTSIDERS) , GRIEVOUS INJURY – 2 (1 PASSENGER AND 1 OUTSIDER) , SIMPLE INJURY- 15 (5 PASSENGERS & 10 OUTSIDERS)
  - C) COST : Rs. 5,00,000/-.
  - D) CATEGORY : FAILURE OF EQUIPMENT OF OTHER THAN RAILWAY STAFF. i.e. LORRY EQUIPMENT.

### **RECOMMENDATIONS**

1. Railway to identify by taking a survey of such critical vulnerable locations wherever possibility of Road Vehicles entering into the track and provide appropriate barricading so as to prevent Road Vehicles easily coming near the Track, as per extant instructions.
  2. Railways to take urgent measures in prevention of corrosion of Coach and also prescribe such frequency as required to identify and attend corrosion repairs without allowing to deteriorate to such extent as observed in this Coach, besides measures to ensure proper and effective fixing of seats to coach body as prescribed.
10. COLLISION OF 4207 UP PRATPGARH-DELHI PADAMAVATI EXPRESS TRAIN AT THE REAR END OF 4723 UP KANPUR-BHIWANI KALINDI EXPRESS TRAIN BETWEEN SAHIBABAD AND 'A' PANEL OF DELHI DIVISION OF NORTHERN RAILWAY ON 12.08.2008.

- A) CAUSE : THE COLLISION TOOK PLACE DUE TO NON-OBSERVANCE OF SIGNAL ASPECT OF AUTOMATIC SIGNAL NO. 35 BY THE DRIVER OF 4207 UP, PRATAPGARH- DELHI, PADMAVATI EXPRESS TRAIN.
- B) CASUALTIES : KILLED – 1 (PASSENGER) , GRIEVOUS INJURY - 2 (PASSENGERS). SIMPLE INJURY - 3 (PASSENGERS)
- C) COST : 34,31,000/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF.

### **RECOMMENDATIONS**

1. Intensive checks and monitoring of all the loco pilots, assistant loco pilots and guard of the trains on Northern Railway should be undertaken for their alertness. For this regular drives should be launched by Northern Railway Administration.
  2. Railway Administration should take necessary action in organizing suitable training/refresher courses for the Loco Inspectors who were supposed to counsel the loco pilots.
11. DASHING OF TRACTOR TROLLEY WITH TRAIN NO. 4005 UP AT SIKANDARPUR STATION OF ALLAHABAD DIVISION OF NORTH CENTRAL RAILWAY ON 31.08.2008. .
- A) CAUSE : DUE TO NEGLIGENCE OF THE DRIVER OF THE TRACTOR TROLLEY, PASSENGER TRAVELLING, SITTING ON THE FOOTBOARD, INADEQUATE PROTECTION AT SITE OF WORK AND INADEQUATE INVOLVEMENT OF OPEN LINE OFFICERS TO ENSURE SAFETY AT THE SITE.
- B) CASUALTIES : KILLED –9 (PASSENGERS) , GRIEVOUS INJURY - 6 (PASSENGERS). SIMPLE INJURY - 3 (PASSENGERS)
- C) COST : 5,000/-.
- D) CATEGORY : FAILURE OF PERSON OTHER THAN RAILWAY STAFF. AND RAILWAY ADMINISTRATION.

## RECOMMENDATIONS

1. Synchronization of Various Activities : MD/RVNL should attempt to synchronize various activities such as shifting of cables, land acquisition, installation o OHE masts, ballasting on the completed formation so that long stretches of empty new formation are not created for plying of road vehicles, since maintaining safety precautions in long lengths is difficult.
  2. Assistance by Police Authorities : The GM/NCR/ALD should assist maximum involvement of Police authorities at the present site to ensure safety of passengers in running trains.
  3. The Railway Administration should ensure that safety related instructions are implemented at site and issue necessary guidelines for field officials to perform efficiently, especially, with regard to safety of running track.
  4. The PMC is requested to ensure that all safety related instructions are fully complied with, at the site.
  5. The Contractor should ensure to honour all these commitments after the accident and ensure that no further accident takes place at this site.
  6. The Railway Administration should provide stickers and posters at platforms and in the coaches, guiding the passengers not to travel by sitting on the footboard and the Railway staff should be guided to prevent passengers traveling on the footboard as much as possible.
  7. The Railway Administration/RPF should take strict action to control law and order and prevent unsocial behavior of local people in this area.
  8. The train accident of 16.06.2008 was not reported by Headquarters to Railway Board. The GM/NCR/ALD is requested to fix responsibility for this irresponsible working.
  9. In such accidents (actual or averted), a provision should be made in the agreement for some financial penalty on the Contractor as well as PMC, in case they are found lacking in ensuring compliance of safety related instructions.
12. UNUSUAL OCCURRENCE OF HITTING OF DOWN STARTER SIGNALS LADDER OF LINE NO.1 WITH 4016 DN SADBHAWANA EXPRESS AT TEZPUR DEHMA STATION OF VARANASI DIVISION OF NORTH EASTERN RAILWAY ON 29.09.2008.
- A) CAUSE : DUE TO THE HANDLE OF A CYCLE GETTING ENTANGLED WITH THE SIGNAL LADDER AND LADDER HAVING NO FOUNDATION/ ANCHORAGE AS PER RDSO'S DRAWINGS NO. SA-23150 & S-2033.

- B) CASUALTIES : KILLED –NIL, GRIEVOUS INJURY-8  
(PASSENGERS). SIMPLE INJURY - 2  
(PASSENGERS)
- C) COST : 20,000/-.
- D) CATEGORY : FAILURE OF PERSON OTHER THAN RAILWAY  
STAFF. AND RAILWAY ADMINISTRATION.

### **RECOMMENDATIONS**

1. If controlling the transport of bicycles, hanging from coach windows, is not possible, then suspended signals from the portals may be considered.
  2. The Railway Administration may consider providing space for bicycles in the coaches, especially in passenger trains.
  3. A survey may be conducted regarding provision of ladder foundation of signals in Varanasi and other Divisions. Wherever ladder foundation is not provided at construction, the same should be provided now.
  4. The SSE (S&T) should prepare a list of critical implantation of signals and give it to other departments, so that whenever the Engineering Department is doing some tie tamping work, they should be careful not to further reduce the implantation. This list should be updated periodically. In addition, the signal post, having critical implantation, should be painted with yellow and black zebra stripes.
13. REAR END COLLISION OF TRAIN NO. M – 165 KZJ-HYB UP PASSENGER WITH TRAIN NO. 355 WADI-HYDERABAD UP PASSENGER WHICH WAS WAITING AT HOME SIGNAL OF HYDERABAD STATION OF SECUNDERABAD DIVISION OF SOUTH CENTRAL RAILWAY ON 30.09.2008
- A) CAUSE : NON-OBSERVANCE OF RULE 9.15 BY THE LOCO PILOT OF MEMU M-165 WHILE PASSING GATE SIGNAL AT ‘ON’ IN AUTOMATIC TERRITORY.
- B) CASUALTIES : KILLED –NIL, GRIEVOUS INJURY -1 ( RAILWAY CREW) , SIMPLE INJURY - 10 ( 3 RAILWAY CREW AND 7 PASSENGERS)
- C) COST : 8,49,000/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF

## RECOMMENDATIONS

1. Immediately Railway Administration shall restore the toggle switch provided in MEMUs for Switching it on whenever the Train passes Automatic Signal at 'ON' position, which will restrict not only the speed of the train but also continuously remind the Loco Pilot through audio signal that he has passed Automatic signal at 'ON' position and shall be ready to stop short of any obstruction.
2. Awareness about the Switch as mentioned at item (1) above shall be given to all the officers and staff, as the knowledge on this was very such lacking at all levels,
3. While deputing a Loco Pilot/Goods to work on a passenger train, he shall be properly counseled particularly when he is going to work in a mixed type of system of working like absolute Block system and Automatic Block system.
4. Railway administration shall take necessary action in organizing suitable Training & periodical Refresher Courses for the Loco Inspectors who are supposed to counsel the Loco Pilots.
5. (i) Railway Administration shall introduce the system of conducting ambush checks involving Officers and Supervisors on the working of Automatic Block System at frequent intervals,  
  
(ii) Also to include recording in Data Loggers the events of Auto Signals.
6. Railway shall ensure that all LPs and ALPs are in possession of valid competency certificate.
7. Inspection and proper upkeep of AW system shall be included in the Maintenance Schedules of EMU (AC&DC) and MEMU coaches issued by RDSO vide letter No. RDSO/PE/SMI/EMU.0037-2007 dated APRIL 2007.
8. The BPC issued for MEMU M-165 does not contain the Train number for which is it issued and the originating & destinating Stations are not mentioned, It is appropriate to bring out these two items in the BPC format, It is also noticed that Guard's name is kept blank which should have filled in before commencing the journey. Further, the Joint Brake power test certificate by I.P./Motorman & Guard before starting the first trip of the day is not brought out in the BPC issued for M-165 though mentioned in the Appendix XVI of G&SR.

14. EXPLOSION IN COACH OF 901 UP LUMDING – TINSUKIA PASSENGER AT DIPHU STATION OF LUMDING DIVISION OF NORTHEAST FRONTIER RAILWAY ON 02.12.2008.

- A) CAUSE : DUE TO CERTAIN EXPLOSIVE DEVICE/BOMB PLANTED/LEFT IN THE COACH AND TRIGGERED WITH REMOTE CONTROL OR OTHERWISE BY SOME UNKNOWN PERSONS(S).
- B) CASUALTIES : KILLED –2 (PASSENGERS) , GRIEVOUS INJURY -7(PASSENGERS), SIMPLE INJURY - 25 ( PASSENGERS)
- C) COST : 1,25,000/-.
- D) CATEGORY : SABOTAGE.

**RECOMMENDATIONS**

- 1 Equipping of Security Department of Railway with proper state of the art equipments for detection & disposal of explosives / bombs and imparting necessary training so as to ensure security of passengers should be expedited within a reasonable time frame.
- 2 Strengthening of Security Department of Railway should be expedited to shoulder additional responsibilities entrusted vide Railway Protection Force (Amendment) Act, 2003 within a reasonable time frame.
- 3 Railway to examine and consider provision of barracks as suggested by Dy SRP/LMG.
- 4 Security Department of the Railway to examine and consider posting of additional RPF personnel at Diphu RPF post.
- 5 Installation of equipment for detection of explosive/bomb for effective screening of baggage and security check of passengers at stations and ensuring sanitization during its/their stay in Railway premises.
- 6 Ticket Checking Staff/RPF Staff should be suitably equipped, adequately trained for the purpose to discharge their duties/role envisaged in the instructions contained in Board letter No. TC-II/2077/04/1 dated 13.04.2005 for intensifying regular and random checks to enforce prohibition on transportation of explosives and inflammable materials in the trains so as to ensure security of passengers.



15 DERAILMENT OF 6309 DN ERNAKULAM – PATNA EXPRESS BETWEEN BARUVA AND SOMPETA STATIONS OF KHURDA ROAD DIVISION OF EAST COAST RAILWAY ON 04.12.2008.

A) CAUSE : FRACTURE/BREAKAGE OF LEFT RAIL OF DN TRACK AT KM 651/32-30 DUE TO FATIGUE, INITIATED FROM WELD METAL DEPOSIT ON RAIL FLANGE TOWARDS GAUGE FACE.

B) CASUALTIES : KILLED – NIL ,GRIEVOUS INJURY - 1(PASSENGER), SIMPLE INJURY – 7 (PASSENGERS)

C) COST : Rs. 3,02,00,000/-.

D) CATEGORY : FAILURE OF EQUIPMENT – PERMANENT WAY.

#### **RECOMMENDATIONS**

1. Deposition of weld metal through metal arc electrode on flange of rail is a matter of grave concern. The concerning staff/supervisor involved in welding work on rails needs to be adequately counseled and educated. At the same time, Flash Butt Welding Plant, Jharsuguda/Bhillai Steel Plant should also be apprised of the fact to take necessary action so that recurrence of such defect is avoided.
  2. There has been situation of inadequate availability of joggle fish plates to protect defective rails/weld joints (OBS/OBSW) which is a unsafe practice. Railway must ensure sufficient availability of safety items viz. joggle fish plates etc. amongst all the PWIs for prompt use as and where required.
  3. Prompt activation of Disaster Management Team, at the appropriate level is key to effective redressal. Necessary drill in this regard at suitable interval is emphasized.
- 16 REAR END COLLISION BEWTWEEN 934 DOWN GOODS TRAIN AND CC 16737 DOWN BOXNE IN JHINGURA YARD ON ALLAHABAD DIVISION OF NORTH CENTRAL RAILWAY ON 08.12.2008.

A) CAUSE : DUE TO THE CREW OF 934 DOWN GOODS TRAIN PASSING DOWN HOME SIGNAL OF JHINGURA STATION AT DANGER.

- B) CASUALTIES : KILLED – 3 (RAILWAY CREW) ,GRIEVOUS INJURY -1 (OUTSIDER), SIMPLE INJURY- 2 (RAILWAY CREW)
- C) COST : Rs. 4,19,54,000/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF.

#### **RECOMMENDATION**

1. Provision of Vigilance Control Device on all the electric locomotives should be accelerated on the Indian Railways.

17 DERAILMENT OF 253 UP KALKA-SHIMLA, HOLIDAY SPECIAL EXPRESS TRAIN BETWEEN SONWARA AND DHARAMPUR HIMACHAL RAILWAY STATIONS ON KALKA – SHIMLA NARROW GAUGE SECTION OF AMBALA DIVISION OF NORTHERN RAILWAY ON 21.12.2008.

- A) CAUSE : OVER SPEEDING BY THE LOCO PILOT OF 253 UP.
- B) CASUALTIES : KILLED – 1 (PASSENGER) ,GRIEVOUS INJURY - 1(PASSENGER), SIMPLE INJURY- 3 (PASSENGERS)
- C) COST : Rs. 6,75,000/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF.

#### **RECOMMENDATIONS**

1. Intensive checks and monitoring of all the loco pilots, assistant loco pilots and guard of the trains on Northern Railway should be undertaken for their alertness. For this regular drives should be launched by Northern Railway Administration.
2. Railway Administration should take necessary action in organizing suitable training/refresher courses for the Driver Instructors/ Loco Inspectors who were supposed to counsel the loco pilots.

18 UNUSUAL INCIDENCE OF INJURIES TO PASSENGERS OF BS 262 A UP EMU LOCAL BY STEEL STRIP OF OVERHEAD EQUIPMENT BETWEEN JOGESHWARI AND ANDHERI STATIONS OF MUMBAI CENTRAL DIVISION OF WESTERN RAILWAY ON 22.12.2008.

- A) CAUSE : DISLODGING OF STEEL STRIP DUE TO DAMAGES TO INSULATOR JOINTS, CAUSED BY RAIL PANEL FALLING ON THE STRIP.
- B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY -3 (PASSENGERS), SIMPLE INJURY- 2 (PASSENGERS)
- C) COST : NIL.
- D) CATEGORY : FAILURE OF EQUIPMENT – OVERHEAD EQUIPMENT

### **RECOMMENDATION**

1. Procedures prescribed in manuals and procedures in practice are adequate to safeguard against such failures. It was lack of coordination by supervisors which led to this failure. No new instruction is required to be issued.
- 19 SIDE COLLISION BETWEEN LIGHT ENGINE WITH TRAIN NO. 6128 GURUVAYUR – CHENNAI EGMORE UP EXPRESS AT TIRUCHCHIRAPPALLI JN. STATION IN TIRUCHCHIRAPPALLI DIVISION OF SOUTHERN RAILWAY ON 16.01.2009.
- A) CAUSE : DUE TO SHUNTER WHO TOOK THE RELEASED LOCO OF 825 A PASSENGER PASSED SHUNT SIGNAL D 22 AT “ ON “.
- B) CASUALTIES : KILLED – NIL ,GRIEVOUS INJURY -3 (2 PASSENGER & 1 RAILWAY STAFF), SIMPLE INJURY- 3 (PASSENGERS)
- C) COST : Rs. 1,21,065/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF.

### **RECOMMENDATIONS**

1. Railways may have to be more careful in evaluating the eyesight of a Shunter/Loco Pilot.
2. Though the SWR provides for handing over the shunt key for every movement, this practice seems to be not followed. Railways have to facilitate following of this rule or take appropriate action to modify the rules.

3. Railways shall ensure completion of the work in all respects before issuing Safety Certificate.
  4. Safety Equipments for Loco and Crew has to be ensured as these were not found in Loco of 825 A Passenger.
  5. All the Crew including Shunters shall be in possession of Walkie Talkie, as the Shunter Shri Kaliyamoorthy was not in possession of Walkie Talkie during this Accidents, otherwise Accident might have been avoided.
  6. Railways should ensure that Track Circuits in Station Yards are attended and kept in good fettle and in case of failure, attend and rectify within a reasonable period from the time of failure.
  7. Data Loggers have to be kept in good fettle and, if obsolete, should be replaced.
20. COLLISION OF 636 DOWN JOGBANI – KATIHAR PASSENGER TRAIN WITH TRACTOR AT ‘B’ CLASS MANNED LEVEL CROSSING GATE NO. KJ-72 BETWEEN JOGBANI AND BATHNAHA STATIONS OF KATIHAR DIVISION OF NORTHEAST FRONTIER RAILWAY ON 31.01.2009.
- A) CAUSE : DUE TO DISPATCH OF THE TRAIN FROM JOGBANI STATION WITHOUT ENSURING THE CLOSURE OF THE GATES AT THE LC GATE KJ-72 AND THE SAME BEING IN OPEN CONDITION FOR PASSAGE OF ROAD TRAFFIC IN THE FACE OF APPROACHING TRAIN.
  - B) CASUALTIES : KILLED – 1 (OUTSIDER) ,GRIEVOUS INJURY - NIL , SIMPLE INJURY- NIL
  - C) COST : Rs. 5,000/-.
  - D) CATEGORY : FAILURE OF RAILWAY STAFF.

#### **RECOMMENDATIONS**

1. Railway chose to flout the instructions contained in Board’s letter dated 25.09.2002 & SR 16.03/1 and disregard stipulations of the Commission for keeping the LC Gates with TVU up to 25000 normally closed to road traffic before commissioning the Section. It is imperative that extant instructions issued by the Board and stipulations made by the Commission while according sanction to works, are complied without any dilution whatsoever in the interest of safety.

2. Railway to ensure that Divisional training Centers impart quality training to reflect improved working, meticulous observance of rules and working instructions.
  3. Railway to consider introduction of practice obtaining assurance from Staff associated with train passing in respect of Gatemen working at Engineering LC Gates by the Sr. Sectional Engineer / P.Way
  4. Bunch of printed Forms for Stock Book (Special Books) stapled and bound together have been supplied for use as Log Register prescribed to be maintained at LC Gates. Proper stationery & registers printed with the format of logbook should be made available for use at the LC Gates.
  5. Planning and implementation of ACD on NF Railway should be expedited to avert collision.
21. UNUSUAL OCCURRENCE TO THE PASSENGERS OF TRAIN No. 5 LCM LJM-CNB MEMU PASSENGER TRAIN AT CONSTRUCTION/WORK SITE AT UNMANNED LEVEL CROSSING NO. 8-C BETWEEN AMAUSI AND PIPARSAND RAILWAY STATION OF LUCKNOW DIVISION OF NORTHERN RAILWAY ON 05.02.2009.
- A) CAUSE : DUE TO INFRINGEMENT BY ONE OF THE GATE LEAVES PROVIDED AT THE UNMANNED LEVEL CROSSING NO. 8-c WHICH WAS NOT PROPERLY SECURED IN POSITION BY THE RAILWAY STAFF AS WELL AS BY THE CONTRACTOR WORKING AT THE SITE FOR WORK.
  - B) CASUALTIES : KILLED – 1 (PASSENGER ) ,GRIEVOUS INJURY - 3 (PASSENGERS), SIMPLE INJURY- 2 (PASSENGERS)
  - C) COST : NIL
  - D) CATEGORY : FAILURE OF RAILWAY STAFF AND FAILURE OF PERSON OTHER THAN RAILWAY STAFF.

### **RECOMMENDATIONS**

1. Regular drives should be launched by Northern Railway Administration to inculcate safety sense among the Railway Officials, contractors and their workmen and for ensuring safety of track, trains/engines, passengers, labour staff etc. at construction/work site by observing various precautions while working in the vicinity/adjacent to track.

2. Railway Administration must ensure ex-gratia payments are promptly and expeditiously made to the injured passengers as well as to the next of kin of the deceased passengers.
  3. Railway Administration must ensure that the various types of unmanned level crossing indicators, speed breakers, as required to be provided at unmanned level crossing gates, are provided as per the laid down norms and standards.
22. DERAILMENT OF 2841 UP HOWRAH-CHENNAI COROMANDAL EXPRESS IN JAJPUR KEONJHAR STATION YARD OF KHURDA DIVISION OF EAST COAST RAILWAY ON 13.02.2009.

- A) CAUSE : JUMPING OF WHEELS OF LEADING TROLLEY OF LOCOMOTIVE WORKING AT A SPEED OF 110/111 KMPH TRIGGERED BY THE APPLICATION OF BRAKES BY THE CREW OF 2841 (UP) EXP. WHILE APPROACHING THE UNMANNED LC GATE AT KM 337/41-43(UP) BARELY 135 M SHORT OF IT AT KM 337/31-33 TO AVERT IMPENDING COLLISION IN THE FACE OF SOME MOVEMENT ACROSS THE UNMANNED LEVEL CROSSING.
- B) CASUALTIES : KILLED – 9 (PASSENGERS) ,GRIEVOUS INJURY - 6 (PASSENGERS), SIMPLE INJURY- 121(PASSENGERS).
- C) COST : Rs.15,28,79,225/-.
- D) CATEGORY : FAILURE OF RAILWAY STAFF.

### **RECOMMENDATIONS**

1. In consideration of the indifferent/unhealthy/unprofessional attitude of the Railway generally displayed as reflected in Para 7.4 in connection with the inquiry into the instant accident, Commission need to be suitably strengthened and enabled to effectively discharge its role. For the purpose, it is important that –
  - (a) existing organizational set up of the Commission(s) is reviewed and strengthened by inducting technical personnel to assist the Commissioners, and
  - (b) Skill and knowledge are suitably upgraded/honed from time to time for which the Officials of the Commission be deputed for suitable training

modules/courses as may be available within the country and abroad. This has reference to my letter dated 31.3.2009 as CRS,SE Circle addressed to Chief Commissioner of Railway Safety.

2. Unmanned LC Gates are potential safety hazard. In consideration of safety of train operation and orders of the Hon'ble Supreme court, the unmanned LC Gate at Km 337/41-43 on Up line and Km 337/42-44 on DN Line within Station Section shall be manned and Interlocked. A time bound program for the same shall be framed and advised by the Railway to the Commission.
  3. Raising of Speed require scrutiny and identification of all important features peculiar to the section including assessment and cognizance of the implications attached thereto related to safety of train operation. Necessary guidelines and instructions for the purpose be framed and issued to the Railways.
  4. Remarks of Chief Electrical Engineer, East Coast Railway against the Preliminary Report forwarded by Chief Safety Officer, East Coast Railway without approval of the General Manager, East Coast Railway are premature and made in a hurry without waiting for the Final Report. It is desirable that Railway be counseled suitably and restrained from making such uncalled for and restrained from making such uncalled for and unwarranted remarks.
  5. Relay room door close switch shall be provided. The same shall also be proved in data logger circuit.
  6. The relay huts shall be provided with double locking arrangement with door close switch duly proved in data logger circuit.
  7. Biasing relays used in many installations on Indian Railways style QB1 / QBA1 shall be used in point detection circuit to guard against the possibility of cross/false feed.
23. HEAD ON COLLISION OF 530 DOWN GORAKHPUR – MUZAFFARPUR PASSENGER WITH TRAIN ENGINE OF 405 UP RAXAUL – SAGALI PASSENGER AT SAGALI STATION OF SAMASTIPUR DIVISION OF EAST CENTRAL RAILWAY ON 14.02.2009.
- A) CAUSE : DISREGARD OF HOME SIGNAL BY THE CREW OF 530 DN PASSENGER TRAIN AT A HIGH SPEED AS WELL AS SHUNTING OPERATION BEING CONDUCTED AT SAGALI STATION ON

THE FACE OF APPROACHING TRAIN  
VIOLATING SWR.

- B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY – 2  
(PASSENGERS) , SIMPLE INJURY- 20  
(PASSENGERS)
- C) COST : Rs. 1,41,24,000/-
- D) CATEGORY : FAILURE OF RAILWAY STAFF.

**RECOMMENDATIONS**

1. An intensive counseling drive is emphasized to educate drivers/ guards towards strict adherence to rules for safe train operation.
  2. A periodical foot plate inspection drive is stressed at officers' level to inculcate adequate alertness on the part of Train engine crew specially during the wee hours when there is a tendency of drowsiness.
  3. Shunting in the station yard on the face of approaching trains should normally be avoided. If inescapable, must be done with extra precaution observing the relevant rules in letter and spirit.
  4. In addition to the above, early installation / commissioning of Anti collision Device (ACD) in railway system is also recommended as a measure of safeguard against such collision.
24. FIRE IN PANTRY CAR OF 2310 DN NEW DELHI – PATNA RAJDHANI EXPRESS BETWEEN MUGHALSARAI – KUCHMAN STATIONS OF MUGHALSARAI DIVISION OF EAST CENTRAL RAILWAY ON 21.03.2009.
- A) CAUSE : DUE TO SPARKING IN THE MOTORS OF DELHI END CHIMNEY CAUSED DUE TO INSULATION FAILURE LEADING TO SHORT CIRCUITING.
- B) CASUALTIES : KILLED – NIL, GRIEVOUS INJURY - NIL ,  
SIMPLE INJURY- NIL
- C) COST : Rs.1,60,00,000/-.
- D) CATEGORY : FAILURE OF ELECTRICAL EQUIPMENT.



## RECOMMENDATIONS

1. The MCB panel provided in the Pantry car has multiutility requirement and its locking arrangement is not fool proof. As such any body has the access to operate MCBs

MCBs pertaining to electrical gadgets should be possible to be operated only by the authorized electrical staff, nobody else. Towards this objective, independent system of fool proof locking arrangement needs to be installed. This will avoid tempering of MCBs by any other person once switched off by electrical staff after completion of legitimate pantry activities.

2. Smoke/Fire detection alarm system should be installed in Pantry car with extension to loco cab in Rajdhani / Shatabdi train for immediate response by driver and all concern.
3. Fire retardency characteristics of materials in use in coaches are still not up to the expectation. It has been noted that in most of the fire cases in train, the coach gets completely gutted. There is an imperative need to upgrade the materials in this regard at par with international standard.
4. Fire fighting training to railway staff specifically train escorting staff needs be put on sound footing. Periodical 'hands on' on use of Fire Extinguisher is recommended.
5. A large no of card board cartons are used to carry various articles in pantry car. Since these card board cartons can easily catch fire, cartons made of fire retardant materials are desirable.

## APPENDIX - V

### LIST OF NEW RAILWAY LINES ETC. AUTHORISED FOR PASSENGER TRAFFIC 2008-09

#### A. NEW LINES

<b>S.No.</b>	<b>Date of Authorization</b>	<b>Section Opened</b>	<b>Railway</b>	<b>Km</b>
1.	10.02.2008	Qaigund – Srinagar - Baramulla	Northern	31.044
2.	08.04.2008	Manu - Ambassa	Northeast Frontier	19.667
3.	12.05.2008	Bansapahar - Ohan	North Central	1.850
4.	21.05.2008	Golhalli - Nidavanda	South Western	20.700
5.	17.06.2008	Qaigund – Srinagar - Baramulla	Northern	30.661
6.	19.06.2008	Hathua - Phulwaria	Northeastern	17.500
7.	08.08.2008	Ambassa - Agartala	Northeast Frontier	68.063
8.	30.08.2008	Malakjgiri 'B' Cabin – Mouala Ali 'C' Cabin	South Central	5.455
9.	02.09.2008	Sakri - Birau	East Central	36.000
10.	08.09.2008	Mohoba - Khajraho	North Central	64.612
11.	09.09.2008	Hasanbazar – Piro	East Central	17.666
12.	29.09.2008	Chittaurgarh – Berach - Cabin	Western	5.100
13.	10.10.2008	Qaigund – Srinagar - Baramulla	Northern	14.104
14.	03.11.2008	Jakhapur - Tomka	East Coast	25.269
15.	03.11.2008	Tomka - Jaroli	East Coast	138.036
16.	14.11.2008	Agasod - Malkheri	North Central	61.524
17.	24.11.2008	Turbhe - Nerul	Central	4.664
18.	03.03.2009	Puntamba – Sainagar Shirdi	Central	17.000
			<b>TOTAL</b>	<b>578.905</b>

**B- DOUBLING**

<b>S.No.</b>	<b>Date of Authorization</b>	<b>Section Opened</b>	<b>Railway</b>	<b>Km</b>
1.	11.04.2008	Chhandrauli - Anupgaj	Northern	14.616
2.	22.04.2008	Julana - Kinana	Northern	13.140
3.	23.04.2008	Chainwa - Pachrukhi	Northeastern	17.520
4.	28.04.2008	Juhi - Panki	North Central	16.887
5.	26.05.2008	Tribeni - Bansh	Eastern	3.710
6.	26.05.2009	Gopalpur Gauchhari - Thanabihour	East Central	28.000
7.	04.06.2008	Uslapur - kalmiter	East Coast	15.500
8.	10.06.2008	Juhi - Bhimsen	North Central	10.132
9.	18.07.2008	Kendrapara Road - Cuttack	East Coast	4.160
10.	29.07.2008	Srikrishna Nagar – Sarai Harkhu	Northern	8.120
11.	29.09.2008	Dindigul – Kodaikanal Road	Southern	21.195
12.	29.09.2008	Baruipur Jn - Birnagar	Eastern	8.040
13.	30.09.2008	Karigauru - Hospet	South Western	5.452
14.	08.10.2008	Kalapipla - Parbati	Western	15.050
15.	13.10.2008	Baruipur Jn - Dhaphdapi	Eastern	6.590
16.	31.10.2008	Bidadi - Ramanagaram	South Western	13.626
17.	20.11.2008	Pachrukhi - Siwan	North Eastern	7.000
18.	21.11.2008	Jaipur - Phulera	North Western	54.750
19.	12.01.2009	Kusmi - Gorakhpur	North Eastern	10.508
20.	02.03.2009	Bakudi - Barharwa	Eastern	7.750
21.	14.03.2009	Bhabhnan - Gaur	North Eastern	7.250
22.	14.03.2009	Bhabhnan - Mankapur	North Eastern	30.150
			<b>TOTAL</b>	<b>319.146</b>

### C – GAUGE CONVERSION

S.No.	Date of Authorization	Section Opened	Railway	Km
1.	15.05.2008	Katihar - Jagbani	Northeast Frontier	108.380
2.	30.06.2008	Rewari - Sadulpur	North Western	141.280
3.	26.06.2008	Karaikkudi - Manamadurai	Southern	62.118
4.	17.07.2008	Pipara Road - Bilara	North Western	41.768
5.	02.09.2008	Senchoa Jn - Silghat	Northeast Frontier	61.440
6.	02.09.2008	Darbhaga - Sitamarhi	East Central	67.840
7.	04.09.2008	Badami - Bagalkot	South Western	26.163
8.	16.09.2008	Tirunelveli Jn - Tirachendur	Southern	59.954
9.	23.10.2008	Nanjangud Town – Chamaraja Nagar	South Western	34.200
10.	27.10.2008	Hingoli - Akola	South Central	126.550
11.	08.11.2008	Vellore Cantonment – Katpadi Junction	Southern	8.955
12.	27.11.2008	Gadag - Badami	South Western	67.110
13.	23.11.2008	Tiruvarur - Nagore	Southern	30.970
14.	26.12.2008	Hisar - Sadulpur	North Western	70.280
15.	12.01.2009	Kaptanganj - Gorakhpur	North Eastern	2.214
16.	19.01.2009	Mehesana - Patan	Western	39.750
17.	26.03.2009	Rewari – Ringus Phulera	North Western	213.060
			<b>TOTAL</b>	<b>1162.032</b>

### D - DIVERSION

S.No.	Date of Authorization	Section Opened	Railway	Km
1.	30.08..2008	Kondapuram- Regadipalli	South Central	2.310
2.	20.11.2008	Phephna - Chitbargaon	Northeastern	2.050
			<b>TOTAL</b>	<b>4.360</b>

## **E - ELECTRIFICATION**

<b>S.No.</b>	<b>Date of Authorization</b>	<b>Section Opened</b>	<b>Railway</b>	<b>Km</b>
1.	28.04.2008	Juhi - Panki	North Central	8.053
2.	19.05.2008	Juhi - Panki	North Central	8.634
3.	26.05.2008	Tribeni – Bansh Beria	Eastern	3.710
4.	04.06.2008	Vslapur - Kalmiter	South East Central	15.500
5.	18.07.2008	Cuttack - Paradeep	East Coast	
6.	18.07.2008	Kendrapara - Cuttack	East Coast	
7.	31.03.2009	Kakhapurwa - Daitari	East Coast	121.160
8.	29.09.2008	Badkulla - Birnagar	Eastern	8.040
9.	06.10.2008	Kalpipla - Parbati	Western	15.050
10.	13.10.2008	Baruipur Jn - Dhaphapi	Eastern	6.590
11.	15.12.2008	Villupuram Junc. - Ariyalur	Southern	110.420
12.	23.12.2008	Kanpur - Anwarganj	North Eastern	5.979
13.	07.01.2009	Chanasadra - Yelahanka	South Western	27.718
14.	05.03.2009	Thrisur - Guruvayur	Southern	22.630
15.	06.03.2009	Korukkupet - Enore	Southern	12.595
			<b>TOTAL</b>	<b>366.079</b>

## APPENDIX VI

### RAIL ACCIDENT INQUIRIES WHICH WERE ENTRUSTED TO THE RESPECTIVE RAILWAY ADMINISTRATIONS.

1. (a) **Brief Description** : Unusual incidence of hitting of EUR rake with engine while on run between Gulberga – Hirelandur stations on Solapur – Wadi section of Solapur Division of Central Railway on 22.09.2009.
- (b) **Casualties** : Killed - 1 (Railway crew)  
Grievously injured - 3 “  
Simple injuries - 9 “
- (c) **Cost of damage to Railway property** : NIL
- (d) **Cause** : Due to inadequate securing of rail panels during run.

## **APPENDIX - VII**

### **ACTIVITIES IN REGARD TO DELHI METRO RAIL CORPORATION**

#### **1.0 INTRODUCTION**

- 1.1 The Delhi Metro Railway (Operation & Maintenance) Act 2002 vide its Section 7, provides that the Central Government may appoint one or more Commissioner of Metro Railway Safety. The duties and functions of the Commissioner of Metro Railway Safety are given in various sections of this Act, which mainly pertain to the opening of the new Metro Railway, use of new type of rolling stock, sanction of new minor works on already opened Metro railway and investigation of accidents etc. These are very similar to the provisions in Railway Act, 1989 for Commissioner of Railway Safety.
- 1.2 Section 12 of the Delhi Metro (O&M) Act also provide for preparation of Annual Report by the Commissioner for each financial year giving a full account of his activities during the previous financial year and forwarding the same to Central Government who shall cause the Annual Report of the Commissioner to be laid, after its receipts, before each House of Parliament under Section 13 of the Act.
- 1.3 Ministry of Civil Aviation vide letter No. A.11013/01/2002-RS dated 03.06.2008 has authorized Shri R.K.Kardam, Commissioner of Railway Safety(CRS),Northern Circle to act as Commissioner of Metro Railway Safety (CMRS) for Delhi Metro. As CMRS is also CRS under Ministry of Civil Aviation as such the report of CMRS is included in the annual report of Commission of Railway Safety.

#### **2.0 HISTORY**

- 2.1 A Technical Economic Study was carried out by M/s RITES in the year 1990, at the instance of Delhi Govt, and in pursuance of the Cabinet decision, a Detailed Project Report (DPR) was prepared by them during the year 1995. In their feasibility report of 1990 M/s RITES had recommended Integrated Multi Model Mass Rapid Transport System (IMMRTS) for Delhi comprising of three components viz Rail Corridors (Surface/Elevated), Metro Corridors (Underground) and dedicated bus way, for a total network of 184.5 kms. The network was later proposed to be extended to connect Vasant Kunj an additional length of 14 kms, increasing the length of total network to 198.5 kms. The study recommended implementation of network in 16 sections, in a sequence based on traffic density. The recommended first phase project of 67.5 km comprised of 02 Metro Corridors, 02 Rail Corridors and a Bus Way.
- 2.2 At the DPR stage in 1995, M/s RITES made certain changes in the first phase network including the change of Bus Way to Metro Corridor. The first phase network was further modified on the advice of Ministry of Urban Affairs & Employment and Govt. of National capital Territory of Delhi, and it was reduced to

a length of 55.3 kms due to various constraints. The Govt of India gave its approval for taking up the Phase –I of Delhi MRTS project in Sept. 1996 as under:

- (i) Metro Corridor  
Vishwavidyalaya-Central Secretariat 10.681 kms
- (ii) Surface Corridor (Partly elevated/partly on the ground)
  - (a) Shahdara to Nangloi 25.0 kms
  - (b) Subzi Mandi to Holambi Kalan 19.3 kms
  - Total 55.3 kms**

2.3 The Sections in Phase-I of the project underwent further reviews and the latest Phase-I, approved by the Union Cabinet, comprises of the following three lines :-

<b>Line No</b>	<b>Section</b>	<b>Length (Kms)</b>	<b>No of Stations</b>
Line No. 1	Shahdara-Inderlok-Rithala	22.056	18
Line No. 2	Vishwavidyalaya-Central Sectt.	10.681	10
Line No. 3	Indra Prastha-Barakhamba Road Connaught place-Dwarka Sector9	32.101	31
<b>Total</b>		<b>64.838</b>	<b>59</b>

2.4 To assist the DMRC in the implementation of this project, a consortium of five international firms headed by Pacific Consultants International (PCI) of Japan has been appointed as General Consultants for the project. The other members of the consortium are Parsons Brinkerhoff International, INC, Japan Railway, Technical Service, Tonichi Engineering Consultants, INC, and Rail India Technical and economic Services (RITES) Ltd.

2.5 The main objective of long overdue Delhi MRTS project is to provide a non-polluting, efficient, safe and affordable rail based Mass Rapid Transit System for Delhi, duly integrated with other modes of transport. The expected ridership in year 2011 as per DPR phase II, for Phase-I of the project will be 1.51 million commuter trips per day, thus taking away equal number of trips from the roads of Delhi. As per DMRC's official Souvenir Book released on 24<sup>th</sup> December 2002, the first phase when completed will translate into :-

- (i) Siphoning off 2,600 buses from Delhi roads.
- (ii) Increase in average speed of buses from present 10.50 kmph to 14 kmph.
- (iii) Reduction in road accidents, thus protecting human life and financial saving of rupees 800 millions.



- (iv) Substantial reduction in vehicle generated atmospheric pollution.
- (v) Saving of fuel worth Rs. 3.80 billions each year.
- (vi) More comfortable and safe travel for commuters and improvement in overall quality of life.
- (vii) 50 to 75% reduction in journey time and thus saving of approximate Rs. 6.0 billions per year and 2.0 millions man hours per day in term of passenger traveling time.
- (viii) A net socio-economic benefit of Rs. 43.7 millions per day for the city.

2.6 New para for Phase-II enclosed.

### **3.0 PROGRESS MADE**

3.1 Construction work of Delhi Metro Rail project commenced on 1<sup>st</sup> October 1998 and by 31.03.09 following sections, were authorized for opening :-

#### **Phase I**

<b>Date</b>	<b>Section</b>	<b>Km</b>
18.12.2002	Sahadra-Tis Hazari	8.349
23.09.2003	Tis Hazari-Tri Nagar-Inderlok	4.872
25.03.2004	Inderlok-Rithala	8.835
14.12.2004	Vishwa Vidyalaya-kashmere Gate	4.060
08.06.2005	Kashmere Gate – Central Secretariate	6.621
23.12.2005	Barakhamba Road – Dwarka	22.936
24.03.2006	Dwarka – Dwarka Sector 9	6.474
09.11.2006	Barakhamba Road (Excluding) – Indraprastha (Including)	2.691

#### **Phase II**

29.04.2008	Shahdara-Dilshad Garden	2.857
17.01.2009	Vishwa Vidyalaya-Jahangirpuri	6.380
	<b>Total</b>	<b>74.075</b>

3.2 The Commissioner had interacted with DMRC authorities from time to time right from the construction stage and while conducting oscillation trials of the coaches on its track in November 2002.

The activities of the Commission in regard to Delhi Metro during the year 2008-2009 were as under :-

I	Statutory inquiries of serious accidents as per section 39 of Delhi Metro Railway (O&M) Act, 2002	(a) Statutory inquiries conducted by Commissioner.	NIL	No such accident occurred on Delhi Metro
		(b) Important Remarks & Recommendations made arising out of (a) above	NIL	Not applicable.
II	Statutory Inspections of Lines by Commissioners authorizing passenger services.	(a) New Line	9.237	Annexure-I
		(b) Doubling	9.237	Annexure-II
		(c) Electrification	18.474	Annexure-III
III	Sanctions accorded by the Commission.	(a) Sanctioning of proposals involving execution of New Minor Works	01	-
		(b) Condonation of cases involving infringements to schedule of Dimensions.	01	-
		(c) Sanctioning of cases involving Movement of Over dimensioned Consignments.	NIL	No application received.
		(d) Sanctioning cases involving running of new types of Rolling Stock on sections of railways where they were not in use.	NIL	No application received.
IV	Inspection of Delhi Metro Railway	Periodic inspections	NIL	-

*Amma*

**(R. K. KARDAM)**  
**COMMISSIONER OF METRO RAILWAY SAFETY**

**Annexure-I**

**Deails of New Lines during the year 2008-09**

<b>S. No.</b>	<b>Date</b>	<b>Section</b>	<b>Kms</b>	<b>Letter No &amp; Date</b>
1.	29.04.2008	Shahdara (Excluding) and Dilshed Garden (Including)	2.857	CRS letter No. R-12014/44/08-09/189-193 dated 29.04.2008
2.	17.01.2009	Vishwa Vidyalaya Jahangirpuri	6.380	CRS letter No. R- 12014/76/08-09/1223-1226 dated 19.01.2009
		<b>Total</b>	<b>9.237</b>	

**Annexure-II**

**Deails of Doubling of DMRC during the year 2008-09**

<b>S. No.</b>	<b>Date</b>	<b>Section</b>	<b>Kms</b>	<b>Letter No &amp; Date</b>
1.	29.04.2008	Shahdara (Excluding) and Dilshed Garden (Including)	2.857	CRS letter No. R-12014/44/08-09/189-193 dated 29.04.2008
2.	17.01.2009	Vishwa Vidyalaya Jahangirpuri	6.380	CRS letter No. R- 12014/76/08-09/1223-1226 dated 19.01.2009
		<b>Total</b>	<b>9.237</b>	

**Annexure-III****Deails of Electrification of DMRC during the year 2008-09**

<b>S. No.</b>	<b>Date</b>	<b>Section</b>	<b>Kms</b>	<b>Letter No &amp; Date</b>
1.	29.04.2008	Shahdara (Excluding) and Dilshed Garden (Including)	5.714	CRS letter No. R-12014/44/08-09/189-193 dated 29.04.2008
2.	17.01.2009	Vishwa Vidyalaya Jahangirpuri	12.760	CRS letter No. R- 12014/76/08-09/1223-1226 dated 19.01.2009
		<b>Total</b>	<b>18.474</b>	