



GOVERNMENT OF INDIA

MINISTRY OF TOURISM & CIVIL AVIATION

COMMISSION OF RAILWAY SAFETY

# **REPORT**

on the

## **WORKING OF THE COMMISSION OF RAILWAY SAFETY**

for

### **1975-76**



by

COMMISSIONER OF RAILWAY SAFETY  
LUCKNOW

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LUCKNOW (U. P.)

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CORRIGENDUM

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1.	1	1(d)	10	of enhancement	or enhancement
2.	4	5.Note	8	32%	0.32%
3.	6	10(d)	9	Board	Broad
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5.	9	14(b)	12	his	this
6.	10	Item (III) Recommendations	-	Recommenations	Recommendations
7.	10	Item (IV) Cause	2	temoering	tampering
8.	11	Item (VII) Description	17	assulting	assaulting
9.	11	Item (VII) Recommendation No.(vii)	2	Points-man	Points-men
10.	12	Item (VIII) Recommendation (a)	8	born	borne
11.	12	Item (IX) Recommendation (b)	1	reverser	reversers
12.	12	Item (IX) Recommendation (c)	1	drive	drives
13.	14	Item (XIV) Recommendation (h)	3	onformed	enforced
14.	15	Item (XVI) Recommendation (b)(v)	1	assessible	accessible
15.	18	Item (XXV) Recommendation (e)	3	break	brake
16.	18	Item (XXVI) Recommendation (f)	3	break-power	brake-power

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<u>S.No.</u>	<u>Page No.</u>	<u>Para No.</u>	<u>Line No.</u>	<u>For</u>	
17.	25	21.2	3	guage	gauge
18.	26	21.3(iii)	17	lead portior	
19.	26	21.6(ii)	5	loosed	loose
20.	27	22.1(iii)	3	Nezamabad	Wizambad
21.	29	23.1(iii)	10	guage	gauge
22.	31	24.2.1	3	Distance	Distant
23.	31	24.2.1	8	gain	again
24.	33	25.1(i)	7	extent	extant
25.	34	25.9	8	made	make
26.	34	26.3	4	shalling...	delete metre
27.	34	26.3	5	-	delete 'shalling' and add: 'the luggage portion leading. It was said that marshalling.....
28.	35	26.8	1	Chaparauch	Chaparaukh
29.	35	27.3	12	out	old
30.	36	28.7(i)	4	Registere	Register
31.	36	28.7(iii)	5	nealty	neatly
32.	37	36	2	eastern	Eastern
33.	39	43	23	through such	though such

.....



## CHAPTER I

### FUNCTIONS AND ORGANISATION OF THE COMMISSION

#### 1. Brief History :

(a) To exercise effective control over the construction and operation of the first railways in India, which were entrusted to private companies incorporated in United Kingdom, 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 recognised. Two decades later, the Government Railway Inspectorate so called, was placed under the Railway Board which was established in 1903.

(b) 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 is vested with Powers and Functions of the Central Government under various Sections of the Indian Railways Act, 1890, in respect of all railways in India, and is authorised 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.

(c) Section 181(3) of the Government of India Act of 1935 provided that “functions for securing the safety, both of the members of public and of persons operating the railways including holding of inquiries into the causes of accidents should be entrusted to officers independent of the Federal Railway Authority”.

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 of 1939 :

“We understand that, under the Government 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 appreciate the position, and would welcome the change, although it appears that, in practice, Government Inspectors have generally retained freedom of judgment.....”

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 Government of India other than the Railway Board”. Accordingly, the Railway Inspectorate was placed under the administrative control of the Department of Posts & Air, thereafter under the Ministry of Transport and Communications. The Administrative control over the Railway Inspectorate, which was re-designated as the Commission of Railway Safety on 1st August, 1966, is exercised by the Ministry of Tourism & Civil Aviation since May, 1967.

(d) The responsibility for safety in the working and operation of railways rests solely with the Railway Board and the zonal Railway authorities. The main task of the Commission of Railway Safety is to assist the Railway executives with a view to ensure that all reasonable precautions are taken in regard to safety of train operation. The Railway Board refers to the Commission matters relating to modification of enhancement of standards in respect of operation of trains, track, locomotives, rolling stocks and signalling-embodied in the General Rules, Rules for opening of New Lines, Manuals, I.R.C.A. 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. Functions :

(A) The principal functions of the Commission of Railway Safety are :—

- (i) Inspection of new Railway Lines prior to authorisation for passenger traffic.
- (ii) Periodical Inspections of Open Lines.
- (iii) Approval of new works and renewals affecting passenger carrying lines.
- (iv) Investigations into accidents, including inquiries into such accidents to passenger trains as are considered to be of a serious nature.
- (v) General advice on matters concerning safety of train operation.

(B) Statutory powers of the Officers of the Commission of Railway Safety, and facilities to be afforded by railways are specified in Sections 4 to 6 of the Indian Railways Act, reproduced below :—

“Section 4 : (1) The Central Government may appoint persons by name or by virtue of their office, to be Inspectors of Railways.

(2) The duties of an Inspector of Railways shall be :—

- (a) to inspect 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 this Act;
- (b) to make such periodical or other inspections of any railway or of any rolling-stock used thereon as the Central Government may direct;
- (c) to make inquiry under this Act into the cause of any accident on a railway;
- (d) 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.

*Section 5 :* An Inspector shall, for the purpose of any of the duties which he is required or authorised to perform under this Act, be deemed to be a public servant within the meaning of Indian Penal Code (45 of 1860) and, subject to the control of the Central Government, shall for that purpose have the following powers, namely :—

- (a) to enter upon and inspect any railway or any rolling stock used thereon;
- (b) by an order in writing under his hand addressed to the railway administration, to require the attendance before him of any railway servant and to require answers on returns to such inquiries as he thinks fit to make from such railway servant or from the Railway Administration;
- (c) to require the production of any book or documents belonging to or in the possession or control of any railway administration (except communication between a railway company and its legal advisors) which it appears to him to be necessary to inspect.

*Section 6 :* A railway administration shall afford to the Inspector all reasonable facilities for performing the duties and exercising the powers imposed and conferred upon him by this Act.

(C) The duties under sections 4(2)(a) & 4(2)(b) of the Indian Railways Act have been detailed in succeeding Sections 17 to 20, 22 to 24. These are:—

- (i) to sanction the opening of new railway lines after inspection on behalf of the Central Government,
- (ii) to inspect a railway or a part of it and submit a detailed inspection report to the Central Government,
- (iii) to sanction the execution of all works, including new works, affecting the safety of running lines,
- (iv) to report to the Central Government any condition which may endanger the safety

of travelling public and make recommendations,

- (v) to inspect a closed railway prior to its re-opening.

(D) Functional duties, including field inspections, of an Inspector of Railways, since designated as Additional Commissioner of Railway Safety, are amplified among other technical publications, in the Railway Board's :—

- (i) General Rules for all open lines of Railways in India administered by the Government.
- (ii) Rules for opening of Railway or Section of a Railway for the public carriage of passengers.
- (iii) Indian Railway's Codes of Practice for Engineering Works.
- (iv) Indian Railways Way & Works and Signal Engineering Manuals.
- (v) Schedules of Dimensions.
- (vi) Indian Railways Conference Association Regulations.
- (vii) *Rules for Notices and Inquiries into accidents.*

The Additional Commissioner of Railway Safety is thus responsible for the day-to-day sanctions he accords to works affecting the safety of the running road, for dispensations agreed to under "approved special instructions" after due examination of each application, and for detailed Reports of Inspections of Open line sections of new Lines, Conversions, Sections doubled, trebled or quadrupled, of Electric Traction and so on.

(E) After its separation from Railway Board in May, 1941 a post of Chief Government Inspector of Railways, since designated as Commissioner of Railway Safety, was created to enable the Ministry, under which the Railway Inspectorate was placed to exercise "effective technical control".

The Commissioner of Railway Safety directs the technical activities of the Organisation and is responsible for advising the Controlling Ministry in matters relating to recruitment of officers, transfers and promotions, budget and expenditure. The Commissioner deals principally with :—

- (i) Matters appurtenant to Field Inspections and statutory inquiries into accidents.
- (ii) Inspection Reports of Addl. Commissioners of Rly. Safety.
- (iii) Reports of Statutory Inquiries held into accidents by the Additional Commissioners. After careful study he forwards his considered opinion to the 'Controlling Ministry and the Railway Board' with such recommendations as he feels are necessary.
- (iv) Railway Board's suggestions pertaining to corrections or amendments to General Rules, Rules for opening of a Railway, Schedules of Dimensions, the



way and Works and Signal Engineering Manuals, procedures for inquiries into accidents, Codes of practice and other publications.

- (v) Preparation of Annual Report on the working of Commission of Railway Safety.

Field duties of the Commissioner of Railway Safety consists of inspections of sections of Railways, visits to the Railway Headquarters and Divisional Offices, Railway installations and to Circle Offices. If considered necessary, he holds inquiries into accidents of an important nature.

### 3. Creation of Additional Circles & The Technical Wing :

(a) Prior to February, 1960, the Organisation consisted of 4 Circles—Northern, Eastern, Southern and Western. On account of development works under the Five year Plans, the Work load increased very considerably, specially in the Eastern Circle which included the Eastern, South Eastern and Northeast Frontier Railways aggregating to 14,465 route Kilometres. An additional circle known as 'Construction Circle' was, therefore, created on 1-3-1960 based at Calcutta, to deal with major projects, the Electrification on the Eastern and South Eastern Railways and the new Dandakaranya-Bolangir-Kiriburu Railway Construction.

(b) On account of the enormous increase in work load, the Circles were re-organised from 11th April, 1968. With this re-organisation of the jurisdictions, the Construction Circle was renamed as South Eastern Circle and Eastern Circle as North Eastern Circle both headquartered at Calcutta.

Pursuant to the Recommendations of the Railway Accidents Inquiry Committee 1968, two more Circles of Inspection called the Central Circle and North Eastern Circle, located at Bombay and Gorakhpur respectively, were created in 1972. Central Circle started functioning with effect from 2-2-1973, and the North Eastern from 21st April, 1973.

(c) *Technical Wing*.—Pursuant to the recommendation made by the Railway Accidents Committee 1962, a "Technical Wing" was set up—

"..... to help the Commissioner of Railway Safety and the Additional Commissioners of Railway Safety to carry out..... inspections and 'Audit checks' on the quality and standard of maintenance of locomotives, rolling stocks, state of equipment, safety aspects of actual practices followed by railways and observance of rules and regulations affecting the safe operation of railways".

Four posts of Deputy Commissioners of Railway Safety from Signal and Telecommunica-

tions, Electrical Traction, Mechanical Engineering and Operating Departments of the Railways were originally created but only two posts i.e. of Signalling and Telecommunication, and Electrical Traction were filled and the other two remained vacant.

Measures have now been initiated to revive these two additional posts to complete the strength as originally recommended by the Committee.

### 4. The Cadre & the Personnel :

(a) The functions detailed in para 2 are carried out on the Indian Railways by a small cadre comprising the Commissioner of Railway Safety, here-in-after referred to as C.R.S. and Circle Officers each known as Additional Commissioner of Railway Safety, here-in-after referred to as A.C.R.S.

The C.R.S. as the Head of the organisation is the principal Technical Advisor to the Government in all matters pertaining to the Commission of Railway Safety. He is generally assisted by a Deputy Commissioner of Railway Safety, who also acts as the Leave Reserve Officer.

(b) As on 31st March, 1976, the cadre in the Commission of Railway Safety was :—

C. R. S. ..	Shri Arya Bhushan *, B.Sc. (Ald.), C.E. (Hons.) F.I.E. (India), F.A.S.C.E., M.A.R.E. A., Found. Fel. P.W.E. (Ind.), M. Inst. R.T. (Ind.)
A.C.R.S. ..	Western Circle, Bombay Shri P.M.N. Murthy, B.Sc., (Hons.), B.E., F.I.E. (India), M. Inst. R.T. (Ind.), Found Fel. Inst. P.W.E. (Ind.).
A.C.R.S. ..	Central Circle, Bombay Shri D. G. Divgi, B.E., A.M.I.E. (India), Found fellow Inst. of P.W.E., Founder Member Inst. of Rly. Transport.
A.C.R.S. ..	Eastern Circle, Calcutta Shri S. K. Mojmder, B.C.E., M.I.E. (India).
A.C.R.S. ..	South Eastern Circle, Calcutta Shri B. J. J. Rao, B.E.
A.C.R.S. ..	North Eastern Circle, Gorakhpur Shri A. V. Jacob, B.Sc., A.M.I.E., A.F.P.W.I.
A.C.R.S. ..	Northern Circle, Luckow Shri J. Y. Marathe, B.E.
A.C.R.S. ..	Southern Circle, Bangalore Shri K. N. Kamath, B.E. (Hons.), C.E. (Hons.), Found Fel. Inst. P.W.E. (Ind.), M.A.R.E.A.
Dy. CRS. ..	Shri Suresh Chandra, (General) B.Sc., B.E. (Hons.), M. Inst. R.T. (India), Member Inst. of P.W.E. (India).

#### *Technical Wing*

Dy. CRS ..	Shri G.C. Saxena (S. & T.)
Dy. CRS ..	Shri K. Bhojraj, B.E. (ET)
Dy. CRS. ..	Vacant † (M)
Dy. CRS ..	Vacant (Optg.)

\*Shri D. G. Divgi took over as C.R.S. with effect from 3-4-76 consequent upon the proceeding on Leave Preperatory to Retirement of Shri Arya Bhushan.

† Shri D. N. Dutt Chaudhary has since joined as Dy. CRS (Mech.) in May, 1976. Shri H.G. S. Rao, Dy. CRS (S&T) and Shri Ranjit Singh, Dy. CRS (ET) retired from service with effect from 31st July, 1975 and 31st December, 1975 respectively.

### 5. Jurisdiction

(a) The route Kilometrage in the jurisdiction of each Circle, on 31st March, 1976, was as under :—

Name of Circle	Head-quarters	Route Kilometrage	Principal Railways
1	2	3	4
Western	Bombay	10,152.58	Western Railway
Central	Bombay	5,911.00	Central Railway
Eastern	Calcutta	4,454.21	Eastern Railway
South-Eastern	Calcutta	6,989.95	South Eastern Railway.
Northern	Lucknow	10,686.14	Northern Railway
North-Eastern.	Gorakhpur	8,653.82	(i) North Eastern Rly., (ii) Northeast Frontier Railway.
Southern	Bangalore	13,608.86	(i) Southern Railway. (ii) South Central Railway.

NOTE.— In addition to the above Principal Railways, the A.Cs.R.S. exercise jurisdiction over the various Metropolitan Transport Projects. They also exercise jurisdiction over Company-Managed Railways, Port Trust Railways and District Board Lines located within their Circles. Such lines constitute about 32% of the aggregate route kilometrage of Indian Railways.

### 6. Designation of Officers :

As already mentioned earlier, the officers were originally called Government Inspectors of Railways and the organisation the Railway Ins-

pectorate. This designation was, however, found to be inapt and gave the public very erroneous impression of the position and status of these Officers performing such important functions. It was, therefore, decided in November, 1961 to re-designate the Chief Government Inspector of Railways as Commissioner of Railway Safety and the Government Inspectors as Additional Commissioners. At that time the pay scale of the Chief Government Inspector was Rs. 2,250 p.m. (Fixed)—same as of the Divisional Commissioners in States and Additional Commissioners were in the grades viz. Rs. 1600—100—1800 (Junior) and Rs. 1800—100—2000 (Senior).

As a result of the recommendations of the Railway Accidents Committee—1962, these grades were revised upwards, the Commissioner having the same grade as of General Managers of Railways viz. Rs. 3,000 p.m. (fixed) and Additional Commissioners being fixed in a scale higher than that of Chief Engineers viz. Rs. 2500—125/2—2750. With the increase in the pay scales of General Managers and Chief Engineers on the Railways, the Third Pay Commission recommended a further revision for the Commissioner as Rs. 3000—3500 and for the Additional Commissioner as Rs. 2500—3000. Keeping in view the higher grades, the high status of these officers and the importance of the functions they perform and to give correct impression to the public as well as the Civil and Police Officers with whom they come in contact during their inquiries, it has been felt that these designations need a change again and the matter is under Government's consideration.



## CHAPTER II

### INSPECTION AND OTHER FIELD DUTIES

#### 7. Inspection of New Lines :

(a) The duties of an A.C.R.S. pertaining to the inspection of New railway lines, including diversions, prior to their being commissioned for passenger traffic, to the use of locomotives and rolling stock, and to electrification of lines are contained in the 'Rules for the Opening of Railway or Section of a Railway for the Public Carriage of Passengers'. Vide Railway Board's Notification No. 152-p of 1916, the A.Cs.R.S. exercise the powers under the Sections 18 and 19 of the Indian Railway Act (IX) 1890, for authorising such new works for traffic.

(b) With regard to the Inspection of New Lines, Doublings, Conversions, Electrification and Major Works, it would be unreasonable to assume that the A.C.R.S., by mere inspection of such works, can take upon himself any part of the responsibility which rests squarely on the Engineers who have supervised the progress of works from day-to-day during the period of construction. At the time of inspection by an A.C.R.S., defects if any as noticed, are pointed out and remedial measures suggested.

(c) During the year under review, the A.Cs. R.S. carried out detailed inspection of new works to the extent below :

	Kilometres
(i) New Lines . . . . .	173.363
(ii) Doubling of Sections . . . . .	168.821
(iii) Diversions (both permanent & temporary) . . . . .	4.10
(iv) Conversion from M.G. to B.G. . . . .	155.67
(v) Restoration of Lines . . . . .	36.25

#### 8. New Minor Works :

Additional Commissioners of Railway Safety are empowered to sanction new minor works affecting the running lines such as provision of new bridges, re-building or re-girdering of existing bridges, re-modelling of station yards, re-signalling works, alterations or renewals and other lines capacity works which affect the operation of passenger carrying traffic. These works after being sanctioned are executed by the Railway Officers and opened under a Safety certificate issued by them unless the A.C.R.S. decides to inspect these before their Commission.

During the year, the A.Cs.R.S. sanctioned 2,971 new minor works of the above type.

#### 9. (a) Works involving infringements of Standard Dimensions :

On the recommendation of the Commission of Railway Safety, the Railway Board sanctioned 110 works involving infringements to Stan-

dard Dimensions specified in the Schedules for Broad, Metre and Narrow Gauges. Of these 10 infringements were sanctioned as temporary measure and 100 as permanent measure.

#### (b) Movement of Over Dimensional Consignments :

Various types of heavy machinery, which infringed maximum moving dimensions, were transported on the Railways, many of them from or to the sea-ports.

During the year, transport of 207 over Dimensional consignments was sanctioned on railways by Additional Commissioners of Railway Safety after due scrutiny, subject to such conditions or speed-restrictions as were deemed necessary.

#### 10. (a) Inspections :

(i) In terms of Section 4(2)(b) of the Indian Railway Act, Additional Commissioners of Railway Safety are required "to make such periodic or other inspections of any railway or any rolling stock used thereon as the Central Government may direct". Accordingly annual inspections of all railways were being carried out by the officers of the Commission of Railway Safety till July, 1953, when they were discontinued on all Government Railways vide Railway Board's letter No. 52/W/8/53, dated the 16th July, 1953. The abolition of these periodical inspections it has been felt, is not in conformity with Section 4(2)(b) of the Indian Railways Act—a fact which was brought out in the earlier Reports of the Commission of Railway Safety.

(ii) The Commission of Railway Safety is not satisfied with the present situation in as much as while on the one hand a reading of Section 4(2)(b) of the Indian Railways Act would lead the Parliament and public to believe that its Officers who are independent of the Railway Board, carry out periodical inspections of the railways, on the other hand the actual position is contrary as those safety oriented periodical inspections have been abolished as mentioned in sub-para (1) above. It is felt that this abolition of periodic inspections is not in the best interests of Safety.

(iii) The importance of periodic inspections of Government Railways by the Commission of Railway Safety—An independent authority—was duly endorsed by the Railway Accidents Committee, 1962 who stated in their Recommendation No. 204 "in order to allay public apprehension, we recommend that the Railway Inspectorate (re-named subsequently as the

Commission of Railway Safety) as an independent body should carry out thorough checks of the track, Rolling stock and methods of operations and also make inspections in the nature of Audit Checks of the Safety aspect of Railway Working". Subsequently, the Railway Accidents Inquiry Committee—1968 headed by Shri K. N. Wanchoo, retired Chief Justice of India, stated in their Recommendation No. 273, "from the Safety point of view, inspections by Addl. Commissioners of Railway Safety are no doubt advantageous". Having regard to the opinion voiced by these two high powered Parliamentary Committees, it is hoped that the Railway Board would soon take action to restore the Statutory periodic inspection of Government railways by the Additional Commissioners of Railway Safety.

(iv) While the letter of the Railway Board dated the 16th July, 1953 mentioned above relieved the Addl. Commissioners of Railway Safety of this responsibility for periodic inspections of Government Railways, it was left open to them to carry out inspections for their own purposes or to arrange ad-hoc visits to study particular aspects of Railway working. Concurrently executive instructions were issued by the Administrative Ministry that detailed inspection of zonal Railways should be conducted to the extent of 20% of the routes Kilometrage every year and a report submitted to the Commissioner of Railway Safety. For this purpose the A.Cs.R.S. were to make use of the facilities available during the annual inspection programmes of the General Manager. Instructions were issued by the Railway Board that *wherever possible* the A.Cs.R.S. may be consulted by the General Managers before finalising their programmes sufficiently in advance and that once drawn up, the programmes should not be altered unless absolutely inescapable. The Chairman, Railway Board also wrote to the General Managers reiterating these instructions. Cases wherein General Managers' programmes are drawn up without consulting the A.Cs.R.S. are however, continuing. The Railway Board, it is hoped, will take steps to ensure that instructions issued to General Managers are properly carried out.

Pending the restoration of the Statutory inspection the Railway Board were requested the

present inspections be termed "General Manager-cum-Addl. Commissioner of Railway Safety Inspections". The Railway Board, it is hoped, will agree to this suggestion.

The Railway Board's views on this issue are reproduced in Annexure I.

**(b) Inspection of Open Lines :**

During the year, the A.Cs.R.S. inspected two Company railways and one Port Trust Railway aggregating to 151.00 Kms. and accompanied General Managers of Government Railways during their inspections of zonal railways. In addition, they carried tour inspections of Government Railways, to the extent of 9,478.45 Kms. They submitted reports of their inspections to the Commissioner of Railway Safety who in turn referred them to the Railway Board for appropriate action. Significant defects noticed during the inspection were discussed at site with the Railway Officers concerned and copies of inspection reports were also furnished to the General Managers to ensure prompt remedial measures.

**(c) New types of locomotives and rolling stock :**

On the recommendations made by the Commission of Railway Safety, the Railway Board accorded sanction to the running of 5 new types of locomotives and 12 new types of rolling stock during the year under review, including the operation of such locomotive and rolling stock on other routes as were already in use on certain sections of the Indian Railways. The A.Cs.R.S. under their own power authorised the running of 51 types of locomotives and 86 types of rolling stock on the Railways in their jurisdictions.

(d) During the year, the conference between the Railway Board and Officers of Commission of Railway Safety was held on 15th December, 1976, which was inaugurated by the Minister of Tourism & Civil Aviation, who gave address followed by an address by the Minister of State for Railways. The Minister of State for Tourism & Civil Aviation also graced the occasion. Board policy matters were covered in these addresses. A copy of the proceedings is attached at Annexure H.

# CHAPTER III

## INVESTIGATION INTO ACCIDENTS

### 11. Incidence of Accidents :

(a) The number of accidents which occurred in 1975-76, as advised by the Railway Board on the Government and Non-Government Railways, including those reported under Section 83 of the Indian Railways Act, 1890, are given in the table below :—

S. No.	Railways	No. of Accidents		No. of accident under Section 83 of the Indian Railways Act.	
		1975-76	1974-75	1975-76	1974-75

1	2	3	4	5	6
<i>Government Railways</i>					
1. Central .		1,950	2,241	42	37
2. Eastern .		1,318	1,259	34	45
3. Northern .		1,989	1,675	48	71
4. North Eastern		660	576	48	47
5. Northeast Frontier.		988	965	47	58

1	2	3	4	5	6
6. Southern .		609	477	40	32
7. South Central .		548	424	57	48
8. South Eastern .		1,265	1,249	42	58
9. Western .		1,287	1,148	47	37

TOTAL . 10,614 10,014 405 433

#### Non-Government Railways

TOTAL . 740 616 16 34

GRAND TOTAL 11,354 10,630 421 467

The figures in the table do not include such occurrences as persons falling out from trains, persons run over on lines and injuries to station or line staff.

(b) For the period from 1965-66 to 1974-75 and for the year 1975-76, the incidence of train accidents on Government Managed Railways including those under Section 83 is shown in the following table—

Sl. No.	Category	65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76
<i>Group I</i>												
1. Collisions . . . . .		74	67	66	47	54	59	57	59	66	66	64
2. Derailments . . . . .		962	876	892	684	751	648	667	598	578	896	768
3. Collisions with road vehicles at L-Xings		123	104	111	129	111	121	118	131	125	140	105
4. Fires in Trains . . . . .		42	50	42	48	47	12	22	25	13	23	27
TOTAL of items 1 to 4 . . . . .		1201	1097	1111	908	963	840	864	813	782	925	964
<i>Group II</i>												
5. Averted Collisions . . . . .		45	46	44	31	22	24	23	13	19	16	15
6. Breach of Block Working Regulations .		58	56	41	46	36	34	20	17	11	16	15
7. Trains Driven past Signals at Danger .		108	93	100	68	47	59	46	46	45	36	49
8. Parting of trains due to failure of coupling apparatus.		1159	823	749	653	590	575	588	470	361	385	697
TOTAL of items 5 to 8 . . . . .		1370	1018	934	798	695	692	677	546	436	453	676
GRAND TOTAL of items (I) to (8) . . . . .		2571	2115	2015	1706	1658	1532	1541	1361	1218	1378	1640

Group I includes accidents which have generally resulted in casualties and/or damage to railway assets. Group II comprises serious irregularities in train working and by train signalling staff.

While the total number of accidents in Group I during the year has increased by only about 3%, it shows a continuing adverse trend after the lowest figure attained in 1973-74. This is a disturbing feature. The trend, however, is marked in respect of Derailments and to some extent in respect of Fire in trains.

### 12. Regulations :

(a) Rules for the guidance of the Officers of the Commission of Railway Safety for holding inquiries into Railway accidents are contained in the Ministry of Tourism & Civil Aviation Notification No. RS. 13-T(8)/71, dated the 19th April, 1973, under the caption "Statutory Investigation into Railway Accidents Rules, 1973".

All accidents as described in Section 83 of the Indian Railways Act are reported, according to Railway Notices and Inquiries into Accidents Rules, 1973 notified by the Ministry of

Railways (Railway Board) in their Notification No. GSR 575, dated the 19th April, 1975,— as per Explanation below clause 3 of the Rules, these accidents include :—

“.....Accidents of a description usually attended with loss of human life are meant to include all accidents to passenger train like collisions, derailments, train wrecking or attempted train-wrecking, cases of running over obstructions placed on the line, of passengers falling out of trains, or of fires in trains, in which no loss of life or grievous hurt as defined in the Indian Penal Code, or serious damage to Railway property of the value exceeding Rs. 1,00,000 has actually occurred but which by nature of the accident might reasonably have been expected to occur; and also cases of land slides, or of breaches by rain or flood, which cause the interruption of any important through line of communication for at least 24 hours”.

(b) The relevant portions of para 2 of Statutory Investigations into Railway Accidents Rules, 1973, are reproduced below :—

“2(2).....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 the value exceeding one lakh Rupees and any other accident which in the opinion of the Commissioner of Railway Safety or the Addl. Commissioner of Railway Safety requires the holding of an Inquiry shall be deemed to be an Accident of such a serious nature as to require the holding of an Inquiry.

(3) Where the Commissioner of Railway Safety considers the holding of an Inquiry into an accident necessary, he may either hold the Inquiry himself or direct the Additional Commissioner of Railway Safety to do so.

*Explanation.*—The Inquiry under this rule 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 under this rule shall not be obligatory. Similarly, if in a collision between a road vehicle and a passenger train at level crossings, no passenger in the train is killed or grievously hurt, it shall not be obligatory to hold an inquiry. For the purpose of this rule, Workmen's trains or ballast trains carrying workmen shall also be treated as passenger trains and in the event of a workmen getting killed or grievously hurt as a result of an accident to the train, an inquiry under this rule shall be obligatory”.

(c) If, for any reason, the Additional Commissioner of Railway Safety is unable to hold an inquiry at an early date after the occurrence of such an accident, he shall inform the Head of the Railway Administration concerned and the Railway Board accordingly and he shall also inform the Commissioner of Railway Safety of the reasons why an inquiry has not been held by himself.

(d) On the receipt of the proceedings of the joint inquiry (inquiry made by a Committee of Railway Officers) from the Head of the Railway Administration in accordance with rule 15 of Railway (Notices of Inquiries into Accidents) Rules, 1973, the Additional Commissioner of Railway Safety shall scrutinise the same and in case he agrees with the findings of the joint inquiry, shall forward a copy of the report to the Commissioner of Railway Safety alongwith his views on the findings and recommendations made. If, on the other hand, the Additional Commissioner of Railway Safety after examination of the joint inquiry proceedings, considers that an inquiry should be held by himself, he shall, as soon as possible, notify the Commissioner of Railway Safety, the Railway Board and the Head of the Administration concerned of his intention to hold an inquiry and he shall at the same time fix and communicate the date, time and place for the inquiry.

### 13. Scope of Statutory Inquiries :

The Additional Commissioner holds inquiries into accidents with a view to ascertaining causes and fix the responsibility thereof on the individuals concerned. Investigations are also carried out into the question as to whether prompt and adequate steps were taken by the railway administration for relief measures e.g. first aid, medical treatment, refreshments, evacuation of injured passengers and facilities given to passengers such as, arrangements for transshipment, completion of their journey to destination, running of duplicate trains etc. As a result of his inquiry, the Additional Commissioner also makes certain recommendations, which are designed to prevent a recurrence of similar accidents, e.g. new rules or equipment for ensuring safety, improved standards of signalling, construction operation 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 bearing on the cause of the accident under investigation but generally affect the safe working of the railway and may cause accidents.

### 14. Procedure for Holding Inquiries :

(a) Under a Statutory Investigation into Railway Accident Rules, 1973 referred to in para 12 the Addl. Commissioner of Railway Safety on receiving intimation of the occurrence of a serious accident proceeds to the site of the quickest possible means and records all particulars, after careful inspection, before according sanction to the Railway for clearance of wreckage and restoration of the lines, He then

carries out Tests as required and records Evidence. The emphasis has necessarily to be on the material and circumstantial evidence at site, which in almost all cases leads to the determination of the cause or causes.

(b) Officers of the local magistracy and police are advised of the inquiry and may attend the same. The press and the public are not admitted to an Additional Commissioner's Inquiry. The public is, however, invited through the press and the radio to give evidence at his inquiry in the capacity of witnesses. The public and the press are excluded from the inquiry because the evidence recorded by the Additional Commissioner is not given on oath or affirmation, and it is solely on the basis of his evidence that he has to determine the technical cause of the accident and fix the responsibility, if any, of railway servants and others. As the Additional Commissioner's conclusions may lead to or to be followed by, prosecutions in criminal Courts, a public hearing of the witness may prejudice the prosecution or defence and subsequent judicial proceedings.

To the suggestions made by the Railway Accidents Committee—1962, viz., "The public and members of the union should be permitted to be present in the course of statutory inquiries into accidents", the Government held the view that "No useful purpose would be served as technical investigations are not likely to be of interest to the public".

#### 15. Statutory Inquiries in 1975-76 :

(a) There were 30 accidents enquired into by Officers of the Commission of Railway Safety. Of these 9 were cases of Collisions between trains; 8 were of Collisions between trains and road vehicles on road crossings; 7 were of Derailments; 4 of Fires and 2 were miscellaneous cases resulting in injuries to train passengers.

(b) The accidents enquired into by the Commission are summarised below giving the significant recommendations :—

(I) *Level Crossing Accident.*—At manned level crossing No. 78/B at Km. 86/8-9 between Muzzampur Narain and Basi Kiratpur stations of Northern Railway on 9th April, 1975.

##### *Description*

On a bright clear afternoon at 16.10 hrs. on 9th April, 1975, a Passenger bus No. UPM 4899 collided with engine No. 12452 CWD at this level crossing. The bus was dragged along for some distance. As a result of the accident one young girl aged 11 years died on the spot and 7 other occupants of the bus sustained injuries. The cost of damage to Railway assets was about Rs. 300.

##### *Cause*

The accident was caused as a result of the gate leaves being left opened to road traffic at the time of the passage of the light engine.

The officiating Gateman was held responsible for not being vigilant.

##### *Recommendations*

(a) A telephone should be provided at the gate and private numbers should be exchanged with the station in respect of trains entering the block section. Action has already been taken by the Administration.

(b) It should be made obligatory to test the Gangmen who are posted to work as Gate-men and to issue a certificate to that effect after examining each such person, who are posted. The instructions have already been issued by the Railway in this connection.

(c) The driver should be trained to gauge the estimated speed of the train more accurately. Railway have issued suitable instructions in this regard.

(II) *Collision at Vasad Jn. of Western Railway on 20-4-75.*

##### *Description*

At about 16.30 hrs. in bright and sunny weather on 20-4-75, JK 2 Down special goods train passed the Starter signal at about 50 Kmph., burst the trailing cross-over, negotiated the turn out ahead for the branch line and collided head-on with 104 Up Passenger train which was being piloted for branch line and had entered inside the branch home signal. The speed at collision was approximately 10 Kmph. for the goods train and 5 Kmph for the passenger train.

As a result of the accident, 25 persons were injured of whom one received grievous injury. The cost of damage to railway assets was Rs. 1,10,000.

##### *Cause*

The accident was caused by JK 2 Down special goods train having been driven past the starter signal at a high speed when the lights of the signal were extinguished. The responsibility for the accident lay with the driver of JK 2 Down special goods. Also some responsibility rested on the Assistant Driver.

##### *Recommendations*

(a) The Form T.87.B or Rules for its use should be changed so that one sheet can be used for one defective signal.

(b) The Drivers should be more conversant with the signalling system and causes of unsafe side failure should not be excluded from the purview of discussions and courses arranged for the drivers.

(III) *Level Crossing Accident.*—Side collision between M 203 Howrah-Burdwan Local train and loaded Truck No. BRW 7433 on Bandel-Burdwan main line section, Eastern Railway on 29-4-1975.

### Description

In the early morning of 29-4-75, at 6.47 hours, Motor Truck No. BRW 7433 while approaching the manned and inter locked level crossing No. 13(A) failed to stop short of the closed barrier and dashed against it and turned to its left with its right-side wheels in between the Up and Down lines and the left side wheels on the Down Track. Train M 203 Up local which approached the site at a speed of 70 kmph within a few moments, side-collided with the truck.

As a result of the collision, 7 passengers were injured (including one railway staff in the train) of whom five received grievous injuries and two simple injuries. The cost of damage to railway assets was estimated to be Rs. 675.

### Cause

The accident was the result of the failure of motor truck to stop short of the closed level crossing gate.

### Recommendations

(i) The Police and the concerned departments should see to it that over-loaded vehicles are not allowed to run on the roads.

(ii) Improved maintenance of brake gear of the trucks, including provision for a hand brake should be ensured by Motor Vehicle Deptt. and the Police.

(iii) Speed breakers should be provided on road surfaces at suitable locations on the approach roads.

(iv) First-aid boxes should be maintained in all stations.

(IV) *Derailment between Thanabihpur and Kharik stations of North Eastern Railway on 6th May, 1975.*

### Description

While on the run between Thanabihpur and Kharik stations of the North Eastern Railway, 2 Down Avadh-Tirhut Mail derailed at KM 65/14.15 at about 3.30 hrs. on 6th May, 1975.

As a result of the accident, 4 persons received simple injuries. The total cost of damage to railway assets was Rs. 1,40,000.

### Cause

The derailment was caused due to the wilful tempering of the track. The responsibility lay with unknown persons.

### Recommendations

(a) Periodical meetings between the Railway Engineers and their colleagues in Police Department, be held to ensure proper check up and investigations of the cases of theft of railway material.

(b) Statistics of theft of Permanent Way material may be brought to the notice of

the State Government at a sufficiently high level.

(c) Welding of rails and burning temporarily of nuts of fish plated joint may be done till the conditions improve.

(d) Home Ministry may be requested to instruct all Police Officials to jointly sign the factual notes with notes of dissent where necessary and to assist Enquiry Body whether it is the A.C.R.S. or the Committee of Railway Officials.

(e) Suitable measures be taken for dealing with interruptions to P&T lines and to ensure appropriate co-ordination between the P&T men attending to over-head wires and controls.

(f) Suitable measures be enforced to see that clocks at the various situations are synchronised and maintained properly.

(g) The machinery to ensure that entries in the vacuum brake certificate are properly made by all concerned should be enforced.

(h) Vacuum gauges should be provided in the Guard's vans of all trains and more specially on passenger trains.

(i) Instructions regarding correct marshalling of SLRs should be enforced.

(j) Speed recorder spools should be replaced well in time.

(V) *Miscellaneous—Bumping of Locomotive with Rake.*—Bumping of locomotive with rake on 10th May, 1975.

### Description

In the evening in clear weather at about 16.58 hrs. of 10th May, 1975, electric engine No. 20324 WAM-2 which was being moved for attaching to the rake of 367 Up Lalgola Passenger failed to stop short of the rake and bumped heavily against it. The Guard's lobby and luggage compartments of the SLR were smashed and one pair of wheels of its leading bogie derailed. The engine was also badly damaged and it derailed by its four leading wheels. The rake parted from the SLR leaving a gap of 27.8 Mtrs. and remaining portion bumped against the dead-end buffer derailing by one pair of trailing bogie wheels. As a result of the accidents two persons died on the spot, two succumbed to their injuries later in the hospital and 16 persons were injured, 5 of whom had grievous injuries.

### Cause

The accident took place as a result of the engine Turner who was moving the engine, failing to keep it under control and stop short of the rake. The engine Turner who lost his life in the accident, was held responsible.

Cost of damage to Railway assets was Rs. 1,90,700.



### Recommendations

(a) Suitable measures should be taken to prevent the possibility of the master controller being unintentionally operated in the double plus position during shunting operations.

(b) Recruitment of the staff in the category of Asstt. Driver should be made from persons with adequate previous technical training.

(c) The practice of permitting unauthorised persons to travel in the locomotives should be stopped with a firm hand.

(VI) *Deraiment* at KM 218/13-10 between Nagavangala and Birur on the Southern Railway on 14th May, 1975.

### Description

On a dark night in the early hours on 14th May, 1975, No. 303 Down Karnataka Express derailed at KM 218/13-10 between Nagavangala and Birur stations.

As a result of the accident two persons were killed and 8 others injured, 5 of whom were grievously hurt. The cost of damage to railway assets was Rs. 1,23,240.

### Cause

The deraiment was the result of unauthorised interference with the track by unknown persons.

### Recommendations

(a) Ministry of Home Affairs may arrange with the State Govt. and Union Territories to issue instructions to the effect that a joint note giving factual position after the accident be signed by the Police Authorities and the railway officials present at site.

(b) It should be ensured that speed indicators and recorders are properly calibrated and tested.

(c) Drivers may be counselled against exceeding the maximum permissible speeds.

(d) Guards may be periodically examined to see that they hook up and use the portable telephone correctly.

(e) It should be ensured that 3 pairs of reverse jaw plates are provided in every rail length on the CST-9 territory.

(f) The maximum interval of 15 days between oiling of axle boxes of coaching stock stipulated in the Conference Rules Pt.-4, should be strictly adhered to.

(VII) *Collision* between 3 AB Up Aligarh-Bareilly Passenger and stationary 356 Down Bareilly Agra Passenger at Dhanari station Northern Railway on 18-6-75.

### Description

On a dark and clear night when the visibility was normal, train No. 356 Dn., which was over crowded, left Bareilly right time

and arrived at Dhanari at 1.50 hours. It was received on the main line. Some six or seven minutes later 3 AB Passenger train, running at a slow speed came on the same line and collided head-on with it. The damage to railway assets was not much, there being no derailment, but the enraged passengers set fire to station building and some of the staff quarters damaging and destroying station records, equipment and furniture.

As a result of the accident, eight passengers sustained grievous injuries and nine simple injuries. In addition as a result of passengers assulting railway employees, one railway employee sustained grievous injuries and another simple. The cost of damages to railway assets was estimated at Rs. 960 due to accident. Further there was considerable damage to railway assets on account of attack and arson by passengers.

### Cause

The accident was the result of the signals having been taken off for the reception of 3 AB passenger train on the main line which was already occupied by 356 Down train. Asstt. Station Master has been held responsible for the accident.

### Recommendations

(i) According to Subsidiary Rule 37/7 of the Northern Railway whenever two trains have to be crossed at a station on a single line section, and where the signalling permits it, the facing points are to be set for the train which has to be received first where as the trailing points will be set for the other train. Inspecting Officers should ensure that this practice is invariably followed. Also subsidiary Rule 37/7 should be specifically incorporated in the station working rules.

(ii) Steps should be taken to ensure that adequate number of lights are provided on the station platform during train times and that the signal lever cabins are invariably well lit.

(iii) Long distance trains should not be allowed to run without vacuum gauge in the Brake Van.

(iv) Railway Safety Officers who happen to be present at the site of accident should immediately make inquiries regarding the accident.

(v) Steps should be taken to ensure that Drivers strictly obey the instructions regarding dimming of head-lights.

(vi) Railway Administration should ensure that illiterate staff are not deputed for train passing duties.

(vii) Railway Administration should ensure that Points-man are sent for refresher courses at due time.

It is important that staff who qualified for their duties long time back should have some

training and refresher courses before they are allowed to work in such capacity. It is suggested that the Railway Board may issue suitable instructions to all Railways on this subject.

(viii) The Railway Board has accepted, as a policy, the track circuiting of run through lines at wayside stations. The pace of such work should be speeded up so that the wayside stations on important branch lines may also be tackled early.

(VIII) *Level Crossing Accident.*—Collision of 659 Down Mixed Train with Truck No. MPG-4148 at Unmanned level crossing No. 18-C, on the Gwalior Bhind Narrow Gauge Station, Central Railway on 29-6-1975.

#### *Description*

On the clear afternoon at about 14.55 hrs. on 29th June, 1975, the driver of Motor Truck No. MPG-4148 took his empty vehicle out of the compound of M.P. Flour Mills Ltd., located near the unmanned level crossing. The truck stood close to the track and resulted in its grazing the second and the following coaches of 659 Down. The speed of the train at the time of accident was 10 Km/h.

As a result of the accident, 11 passengers were injured, the injuries to 6 of them being grievous.

There was no damage to Railway assets except minor grazing marks on the coaches.

#### *Cause*

The accident was the result of the truck having been driven without adequate care.

#### *Recommendations*

(a) Constructions within 30 metres of the railway land or any other reasonable distance in city areas, have to be avoided in terms of para 3728 of the Indian Railways Way & Works Manual. The need to ensure that in any case the gates are located at least 20 metres away from the track should be born in mind in this connection.

(b) It was understood that the truck drivers involved in the accident at Level Crossings were prosecuted for offences under the Indian Railways Act and the Criminal Penal Code. None of the provisions in the Motor Vehicles Act and Rules were utilized. Apparently, the latter are not adequate. This needs to be investigated by those dealing the Motor Vehicle's Acts. This recommendation may be brought to the notice of the concerned Ministries and all the State Govts.

(IX) *Collision at Khirkiya station on 11-7-75* of Central Railway.

#### *Description*

On the dark night of 10/11-7-75 at about 02.08 hrs. when it was raining heavily, 6 Up Punjab Mail collided with the rear of Up

Diesel Special Goods train standing on the Up main line at Khirkiya station. Speed at impact was 15 Km/h.

As a result of the accident 12 persons were injured of whom 5 sustained grievous injuries. The cost of damage to railway assets was Rs. 19,000.

#### *Causes*

The accident was caused on account of throwing back to normal the correctly set points for the vacant Up loop line in the face of the approaching train and thus diverting the train on to the occupied Up Main Line.

The responsibility for the accident was fixed on the Cabinman of 'B' cabin.

#### *Recommendations*

(a) Steps to educate the staff suitably inculcating a balanced out-look may be taken. The effect of severe punishment imposed for detentions may be taken into consideration.

(b) Steps to ensure that reverser function normally after defects in the concerned signal are attended to by the staff of the S&T Department should be taken.

(c) Suitable checks and drive should be introduced to enforce the observance of speed restrictions on turn outs.

(X) *Level Crossing Accidents.*—Collision between 37 Up Howrah Madras Janta Express and Bus No. ORG 2351 at 'B' class manned level crossing between Mancheswar and Bhubaneswar stations, S.E. Railway on 29-7-1975.

#### *Description*

On the clear morning of 29th July, 1975, at about 10.27 hrs., the 37 Up Express approaching Bhubaneswar, ran into and collided with motor Bus No. ORG 2351, which has stalled at the level crossing. The bus was struck broad side on its right and pushed ahead by 220 metres where the train came to a stop.

As a result of the accident, two persons were killed and two grievously injured. All of whom were passengers of the bus. The cost of damage to Railway assets was estimated at Rs. 1,875.

#### *Cause*

The collision was a result of the engine of the Bus having stalled on the Level Crossing across the Up track in the face of the approaching train.

None was held responsible for the accident.

#### *Recommendations*

(i) The level crossing should be classified as special class and the width of road between the gate posts should be widened immediately to 24 ft. for faster clearance of

road traffic and the Level Crossing should be protected by gate signals.

(ii) Till such time the above recommendation is given effect to the station working Rules of Bhubaneswar should be amended to stipulate that for all trains the Gateman should be informed about the details of the train when Line Clear is given and asked to close the gates immediately thereafter.

(iii) The maintenance of the portable telephones should be improved and Guards should be drilled in their use.

(iv) A stricter watch is essential to ensure that no coach is overdue P.O.H.

(v) The State Government should examine why the defective bus was allowed to run on the road. It should take suitable action to ensure proper maintenance of public vehicles for preventing similar accident.

**(XI) Collision between Pundag and Rádha-gaon of South Eastern Railway on 12-8-75.**

**Description**

On the dark cloudy night of 12 August, 1975, at about 00.48 hrs., 63 Up Asansol Ranchi Howrah Passenger and Multi Diesel Light Engine collided in the block section at KM 384/1 between Pundag and Rádha-gaon stations of South Eastern Railway.

As a result of the accident, 4 persons were killed and 25 persons injured, of whom 7 sustained grievous injuries. The cost of damage to Railway assets was estimated at Rs. 3,85,000.

**Cause**

The accident was the result of the Multi Diesel Light Engine having been driven into Pundag-Rádha-gaon block section without the authority to proceed and disregarding the departure signal of Pundag station. The driver of the Multi Diesel Light Engine was held responsible. The Diesel Assistant was also held responsible for not keeping a good look out while the train was in motion.

**Recommendations**

(a) The emergency lighting equipment should have been supplied to the Guard of 63 Up and also supplied to the Guards of all trains carrying passengers.

(b) Cab drivers and Diesel Assistants were on duty for over 22 hrs. without any intervening rest. Such an irregularity should be avoided. There should be a system of compelling the footplate staff to avail rest after 12 hrs. even if they are not inclined to do so.

(c) Wrong marshalling of coaches on the ends of the trains should be avoided.

(d) Inspecting officials must exercise frequent checks to ensure that scoring out private numbers is done in chronological order and no other practice is observed.

**(XII) Collision at Talamanchi station of South Central Railway on 15th August, 1975.**

**Description**

At about 03:00 hrs. on the moonlit night on 14/15 August, 1975, the South West bound 88 Up Vijayawada-Tirupati East Tiru. Express collided with a goods train standing on the Up loop of Talamanchi station. The speed at collision was about 8 kms. per hour. As a result of the accident, one passenger died and one was grievously hurt.

**Cause**

The accident was due to the Up facing points having remained set for the loop line resulting in the express train entering the road which was occupied by the goods train. Primary responsibility for the accident was fixed on Switchman, North Cabin. The train had entered the station on the authority of a Pilot Memo issued to pass the defective Home signal.

**Recommendations**

(a) The Railway may take up the cases of signal wires being tampered with by unsocial elements.

(b) Railway Administration may see that staff known to be addicted to Alcohol are not put in charge of train working/train signalling duties. The Railways has instituted suitable measures.

(c) The rules should provide for the station porter, who hands over the authority to pass the defective signal of the danger to the driver to travel on the foot plate of the engine till the train comes to a stop under his direction. The Railway Administration agreed to issue suitable instructions in respect of certain specific types of cases.

(d) The Drivers should be instructed to check up and satisfy themselves about the proper focusing of the head light and furnish written assurance before leaving the shed. Railway undertook to issue suitable instructions.

(e) The need to improve the standard of maintenance of speed recorders was emphasised.

(f) Deficiencies of fire extinguishers and emergency lighting equipments on No. 88 Up Express should not have taken place.

(g) Delays of the type which took place in starting the medical special van, should be avoided.

**(XIII) Level Crossing Accident near Balanagar cabin on the Eastern Railway on 18th September, 1975.**

**Description**

At about 10.21 hrs. on the clear morning of 18th September, 1975, the C 247 Up Howrah-Burdwan EMU local dashed against

the trailing end of a truck which unauthorisedly attempted to negotiate the cattle crossing No. 5 D. At KM 10/17-19. The speed of the train at the time of the collision was approximately 70 Km/h and of the truck 15 Km/h.

One person namely Motorman succumbed to his injuries and 3 others were hurt. The cost of damage to Railway assets was Rs. 95,068.

#### *Cause*

The collision was due to the truck unauthorisedly coming up on the track in the face of the approaching train.

#### *Recommendations*

(a) Out of 9 cattle crossing on the portion of the Rajdhani route, those required to be retained, should be up graded to manned Level Crossing and the others closed.

(b) EMU coaches should be given POH on the due date.

(XIV) *Derailment* in the section between Gogamukh & Dhemaji stations of Northeast Frontier Railway on 20-9-1975.

#### *Description*

At about 12.15 hrs. on 20-9-1975 under conditions of fair weather and good visibility, 176 Down mixed train while running at approximately 50 Km/h on a straight track, derailed.

As a result of the accident, 2 persons sustained grievous injuries. The total cost of damage to Railway assets was Rs. 1,20,275.

#### *Cause*

The cause of the derailment could not be established beyond doubt. It was most probably due to poor condition of the track where the permitted maximum speed of 50 Km/h was too high. Railway Board's views are, however, awaited.

#### *Recommendations*

(a) The soft wood sleepers have reached the end of their life should be replaced early and the track suitably ballasted, and the general condition of track improved.

(b) Instructions laid down in the Way and Works Manual for testing the track with the Halade track recorder should be enforced.

(c) The maximum permissible speed should be reduced to 40 Km/h for the time being.

(d) Guide lines for the Permanent Way staff should be laid to enable them to impose appropriate speed restrictions which should be prescribed for the various deteriorated stages of the track.

(e) Where possible, goods wagons of mixed trains should be marshalled in the rear to reduce consequences of the derailment to the coaching stock.

(f) Effective steps should be taken to improve the telephonic communication between North Lakhimpur and Murkongselek stations.

(g) The instructions in regard to preservation of clues and materials of the accident should be reiterated and brought to the notice of all concerned.

(h) Instructions that staff concerned must proceed to the site by the quickest possible means should be reiterated and enforced.

(XV) *Fire on Trains*—Fire on motor coach (leading) near Kalyan on Central Railway on 29-9-1975.

#### *Description*

At about 20.33 hrs. on the dark rainy night of 29th September, 1975, there was a sudden flash on the roof of the leading coach No. 7606 of A/41 Down Bombay Ambar-nath Local train between Kalyan and Vithal-wadi stations of Central Railway. As a result of the accident 5 passengers died due to burn injuries. 3 others had grievous injuries. The cost of damage to Railway assets was Rs. 4,000.

#### *Cause*

The cause of the fire was an electrical short circuit caused by an external object such as a stray piece of wire between 1500 volts overhead line/pantograph and the roof of the coach. Responsibility was not fixed on any individual. The injuries would have been avoided if the pantograph had been re-located on non-passenger carrying portion of the coach.

#### *Recommendations*

(a) The pantograph should be re-located on the roof of non-passenger compartments.

(b) Suitable means of insulation over the roof particularly in the pantograph zone should be provided.

(c) Means for getting down from the Electrical Multiple Units trains during emergency at out of course stoppages such as Steps, should be provided.

(d) As cases of fire due to short circuit have been frequent on the 1500 Volt DC system, absent in the case of 25 KV AC system, the former system may be replaced by the latter type which is also known to be techno-economically superior form of traction.

(XVI) *Level Crossing Accident*—Collision of Up Diesel Light Engine No. YDM 6306 with Motor Truck No. DHG 3926 at Manned Level Crossing No. 68 between Rewari and Bawal stations, Western Railway, on 8-10-1975.

#### *Description*

On the dark night of 7/8th October '75, at about 2.20 hrs. Diesel light engine collided

with the left rear portion of the Motor Truck at 'C' class manned Level Crossing No. 68 at a speed about 35 kmph.

In the accident, three of the eight labourers on the Truck died at the spot and three others were injured, one of whom sustained grievous injuries and two simple injuries. The cost of damage to Railway assets was estimated to be Rs. 1,525.

#### *Cause*

The collision was the result of the crossing being left open to road traffic at the time of passage of Light Engine. Gate keeper was held responsible for the accident.

#### *Recommendations*

(i) (a) In view of the heavy traffic that passes through this crossing, the crossing should be interlocked with the signals and it should be upgraded to 'A' class.

(b) An additional Gatekeeper may be posted at the crossing.

(c) The Gatekeepers should be instructed that they should close crossings to traffic immediately on receipt of information of an approaching train.

(d) A road over/under bridge may be provided at such crossings.

(ii) The fixture/mounting of the gate lamps should be improved so that it is impossible to fix the gate lamps the wrong way.

(iii) (a) The visibility of the crossing should be improved by removing vegetation within a distance of 50 metres from the crossing and suitable re-alignment of the road.

(b) The road authorities should be advised to provide standard road signs conforming to the pattern indicated in the Ninth Schedule of the Motor Vehicles Act.

(iv) The importance of ensuring that directives bearing on safety are implemented in the field without delay may be emphasised to all supervisory staff and suitable machinery set up for this purpose at the Divisional level.

(v) Feasibility of providing an easily accessible line in the yard at Rewari for stabilising the Medical Van may be examined.

(vi) The inadvisability of drafting unwilling staff for performing jobs involving the safety of the travelling public may be brought home to all concerned.

(XVII) *Fire on Train*—Fire in suburban train between Elphinston Road and Lower Parel stations, Western Railway on 18-10-1975.

#### *Description*

On the bright afternoon of 18th October, 1975, motor coach No. 206 B of the south bound local train No. 274 Up while on the run caught fire between Elphinston Road

and Lower Parel stations of the Western Railway. There were no casualties in this accident. The total cost of damage to Railway assets was estimated at Rs. 3,00,000.

#### *Cause*

The fire was the result of a short circuit in the Low Tension wiring bunch below the traction motor overload panel due to defective insulation. No individual railway staff were held responsible.

#### *Recommendations*

(a) Top priority should be given for the re-wiring of the coaches with cables of improved specifications and of the fire retarding type.

(b) To communicate with passengers in emergency, Portable loud speakers may be provided to Guards and Motormen of Elect. Multiple Unit trains.

(c) The replacement of the wiring of electrical stock should be carried out on a time basis instead of on aged-cum-condition basis.

(d) Operating characteristics of protection devices including miniature circuit breakers should be tested and verified during POH.

(e) Provision of equipment for Central Operation of inert gas cylinders for extinguishing fire should be expedited.

(f) Door fixtures of compartments housing elect. equipment should be maintained in good shape.

(g) Suitable means should be provided to help the passengers de-train in emergency.

(XVIII) *Level Crossing Accident* between Katni Murwara and Hardua, Central Railway on 27th October, 1975.

#### *Description*

At about 19.50 hrs. on the 27th October, 1975, under conditions of down pour in the dark evening. 772 Up goods train dashed against a private bus at manned Engineering non-interlocked Level Crossing at telegraph post No. 1229/2-3 between Katni Murwara and Hardua stations of the Central Railway

As a result of the accident, the driver of the bus was killed on the spot and 6 occupants sustained grievous injuries. The cost of damage to Railway property was estimated at Rs. 120.

#### *Cause*

The accident was due to the gates of the Level Crossing having been opened for the bus to cross in the face of the approaching train. The responsibility could not be fixed on any individual as between the gateman and the Cabin Assistant Station Master of Katni Murwara.

### Recommendations

(a) At non-interlocked Level Crossing provided with telephone, the system of exchanging private numbers with the station should be introduced.

(b) During the night the Hand Signal lamp should be set by the Gateman to show Red to rail traffic throughout the period during which gates are open.

(c) The work of replacing of swing gates with lifting barriers should be expedited.

(XIX) Collision at Saktigarh, Eastern Railway on 4-11-1975.

### Description

311 Up Sealdah-Muzaffarpur Fast Passenger dashed against the front portion of C.259 Down Burdwan-Howrah Local train at the Diamond crossing at Saktigarh station of Eastern Railway at about 8.25 hrs. of 4th November, 1975.

As a result of the accident 31 persons were injured of whom 10 had grievous injuries. The cost of damage to railway assets was Rs. 2,21,065.

### Cause

The collision was caused by the Driver of 311 Up having entered Saktigarh station passing the Up main line Home Signal which was showing danger aspect. The driver of 311 Up was held responsible for the accident and the leading Fireman for not observing vigilance.

### Recommendations

(a) The automatic Warning System may be introduced on the suburban sections on the top-most priority.

(b) At junctions on main running lines which are not normally provided with isolation, the speed may be restricted to 50 Kmph.

(c) The driving staff should be properly educated regarding the significance of different indications of the signals in the multiple aspect territory and Colour light signalling territory.

(d) Railway must ensure that EMU coaches are given POH on their due dates.

(XX) Injuries to Passengers of T-49 Down Bombay VT-Thana local train between Mulund and Thana stations, Central Railway on 17-11-1975.

### Description

On a clear morning at 10.29 hours on 17-11-1975 soon after T-49 Down left Mulund station, some of the oversized steel channels loaded in 2nd class coach by railway staff got slightly displaced from their positions, with the result that the projecting portion of one of them struck the interplatform fencing, hit an overhead electric structure and fell outside. Another channel also

fell outside the same way. In the process the channel hit the passengers inside the train causing injuries to them. The speed of the train at the time of accident was 40 kmph.

As a result of the accident three persons received grievous injuries and two, simple. The cost of damage to railway assets was negligible.

### Cause

The injury to passengers was due to abnormally sized channels loaded in the passenger compartment being disturbed by the normal movement of the passengers thereby causing the channels to protrude and hit the fencing between the platform and later the overhead electric structures. In this process the channels hit the passengers who were injured.

Overhead electrical Inspector, under whose instructions and supervision the channels were loaded in the train was held responsible for the accident.

### Recommendations

Nil.

(XXI) Derailment of 20 Up Dehra Dun Express at Virar Station of Western Railway on 26th November, 1975.

At about 4.43 hrs. in the morning of 26th November, 1975, 20 Up Dehra Dun Express while running through Virar station derailed at the approach to the platform portion of the line. The speed at derailment was about 85 Kmph.

As a result of the accident 3 persons were killed, 12 others were injured, out of whom 5 had grievous injuries. The cost of damage to the railway assets was estimated at Rs. 4,48,970.

### Cause

The derailment was due to the breakage of the left end journal of the front axle on the trailing bogie of the 3rd coach as a result of seizure of the SKF make roller bearing. No railway staff was held responsible.

### Recommendations

(a) All SKF type spherical roller bearings of coaching stock should be dismounted from journals and examined thoroughly during shopping.

(b) The High Power Committee may be constituted to go into the question of failure of roller bearings and recommend suitable measures, preferably involving the manufacturers.

(c) Suitable device for detection of hot boxes of roller bearings may be evolved. Also investigations may be made to see if the feature of long distress running with unmistakable shrilled noise inherent in plain bearings can be super-imposed on the roller bearing. Also, meanwhile, a suitable device based on a thermo-couple be evolved with which the train examining staff can detect abnormal condition of the axle boxes.

(d) Measures be taken to ensure that no item of train examination bearing on safety is left over in the event of the railway staff being absent for any reason.

(e) The need for providing additional pit lines for primary maintenance of 19 Down rake be examined.

(f) It is advisable to maintain a separate pool of Mail and Express rakes. When coaches from Passenger trains are switched on to Express service, they should be given periodical overhaul at intervals prescribed for Mail and Express trains.

(XXII) Collision between Katepurna and Murtazapur stations of Central Railway on 11-12-1975.

#### Description

At about 02.08 hrs. on 11-12-75, 39 Down Nagpur Express collided with the obstruction caused by the derailed goods train No. Q-30 Up between Katepurna & Murtazapur stations.

As a result of the accident 2 persons sustained grievous injuries and 8 simple injuries. The cost of damage to Railway assets was estimated at Rs. 2,16,000.

#### Cause

The accident was caused by the 39 Down Express train ramming into the obstruction caused by the derailed wagon of Q-30 Up goods train which in turn was brought about by the shifting of its consignment of the steel sheets.

#### Recommendations

It is urgently necessary to prescribe in the goods tariff adequate and compulsory packing conditions for consignments like steel sheets which are liable to shift and to exercise checks, at suitable stations enroute.

(XXIII) Collision at Padmapukur Goods Yard on South Eastern Railway on 20-12-1975.

#### Description

At about 23.40 hrs. under conditions of impaired visibility due to fog on the night of 20-12-1975, the staff pilot while entering Padampukur goods yard collided with the rear of the stationary rake of Down Electric Special goods which arrived earlier on line No. 2. The speed at impact was 15 Kmph.

As a result of the collision, 4 persons received grievous injuries and 7 others minor injuries. The cost of damage to railway assets was Rs. 3,710. The accident was caused as a result of the staff pilot being received on an occupied line, the ASM West Cabin was held responsible.

#### Recommendations

(a) The staff should be educated suitably so as to develop a rational approach in giving over-riding importance to safety in train working.

(b) Irregular practice of some times admitting the staff pilot on Shunt/hand signals of line No. 5 in contravention of the instructions, should be stopped forthwith.

(c) Inter cabin control to ensure coordination in the setting of the points before a Home signal can be taken off, be introduced.

(d) The staff pilot must be worked only on the passenger line and arrangement should be made for the purpose, if necessary, for starting it from the second loop.

(e) The Train Examiners must ensure taking proper protective measures while examining any rake, and at night erect 'Red' lamp at a height of about 1.21 Mtrs. The Railway Board may consider introducing Subsidiary Rule on other Railways also.

(f) Yard lighting should be improved.

(XXIV) Derailment between Mukundarayapuram and Walajah Road Junction of Southern Railway on 6-1-1976.

#### Description

At about 3.30 hrs. in conditions of clear weather and normal visibility on 6th January, 1976, the Madras Cochin 20 Up Mail derailed in the section at Km. 110/6-7.

As a result of the derailment one person was grievously injured and another had minor injuries.

#### Cause

The derailment was caused by the fracture of one rail into 3 pieces under the running train. The total cost of damage to Railway assets was Rs. 70,392.

#### Recommendations

(a) Railway Board may arrange for adequate number of ultrasonic flaw detectors equipped with angular probes and for completion of initial testing within the next four years on all lines where trains run at speeds higher than 40 kmph.

(b) The rails with the same casting marks as the broken one should be taken out from all running lines early.

(XXV) Derailment at Ponch Pipliya, Western Railway on 27-1-1976.

#### Description

At about 06.40 hrs. in the cold and dark morning on 27th January, 1976, goods train No. EPH-BPL 35 Down derailed after entering the sanded dead end taking off from the Down Main Line at Ponch Pipliya station.

In the accident, the Diesel Assistant was killed and the Driver sustained minor injuries.

The cost of damage to Railway assets was Rs. 9,000.

#### *Cause*

The derailment was due to the train being driven, past the Down Main Starter Signal which was at danger.

#### *Recommendations*

(a) More rigorous standards in the Selection of Drivers for Diesel Loco are needed.

(b) Drivers should be suitably educated to ensure proper use of the vigilance control device.

(c) The advisability of arranging for the application of dynamic brakes also during emergency be examined.

(d) The present arrangements regarding examination and certification of Goods train in the Sabarmati Electric Power House siding which apparently suffers from several shortcomings may be reviewed urgently and necessary remedial measures adopted.

(e) Strict Enforcement of the instructions to see that vacuum gauges are used in the Guards break vans may be enforced.

(f) The importance of Guards exchanging 'All Right' signals with the driving crew at all run through stations without fail may be brought home to all concerned.

(XXVI) *Level Crossing Accident* near Gorakhpur Cantt., North-Eastern Railway on 28-1-1976.

#### *Description*

At about 10.42 hrs. on 28th January, 1976, 226 Down Passenger train collided with motor truck at unmanned Level Crossing No. 2 near Gorakhpur Cantt. station.

As a result of the accident, one passenger died on the spot, 2 others were injured, one of whom had grievous injuries. One person travelling in the truck also died on the spot. The cost of damage to railway assets was Rs. 2,000.

#### *Cause*

The collision was due to reckless and negligent driving on the part of the truck driver in the face of the approaching train.

#### *Recommendations*

(a) Provision of road signs at unmanned Level Crossings should be ensured on a priority basis.

(b) Instructions should be issued to ensure that heavy duty vehicles such as motor trucks stop short of the unmanned Level Crossings and only after making sure that no railway train is coming, cross the tracks.

(c) Surprise checks should be carried out at unmanned Level Crossings jointly by the Police and railway officials to apprehend motor vehicle drivers who disregard the rules.

(d) Appropriate publicity should be given to the precautions to be taken while crossing an unmanned Level Crossing.

(e) Maintenance of Stop Boards etc. at unmanned Level Crossing on Branch line should be given more attention.

(f) Necessary steps should be taken to ensure that the Guards and Drivers sign in the appropriate column in the break-power certificate.

(g) Teloc speed recorders should be maintained properly.

(h) Field telephone should be maintained in working order.

(i) Early steps should be taken to make good the deficient First aid Boxes at stations.

(XXVII) *Collision* at Dashnagar Halt of South Eastern Railway on 8-2-1976 at 05.55 hrs.

#### *Description*

Under conditions of extremely poor visibility due to dense fog, 84 Down Hatia Ranchi Express moving at a slow speed, collided with the rear of P-4 Electric Multiple Unit Local Train at KM 4.47 near Dashnagar Halt.

As a result of accident, 11 persons were injured out of whom one sustained grievous injuries. The cost of damage to railway assets was Rs. 870.

#### *Cause*

The collision was caused by the Driver of 84 Down not having exercised great caution as enjoined in General Rule after passing the Automatic Signal at ON.

#### *Recommendations*

(a) More attention from the railway is required for the proper maintenance of speed recorders on locomotive on Mail and Express trains.

(b) The Synchronizers of the brakes should be properly maintained.

(c) Safety, Counselling and ambush checks should be intensified in the Automatic Block territory to ensure that Drivers observe rules.

(d) Special steps to be taken by the guards to blow the buzzers continuously to warn the Drivers in conditions of poor visibility.

(e) Installation of Automatic Warning device should be expedited.

(f) The Drivers should be instructed to put right all emergency telephone sockets.

(g) Guards while attending to the injured persons should also ensure that the protection of the train is carried out.

(XXVIII) *Fire* on train between Sion and Matunga on Central Railway on 12th February, 1976.



### Description

At about 15.01 hrs. on 12-2-76, the leading coach of T-84 Up Thana Bombay VT local train was engulfed with fire and came to a halt at electric structure at KM 10/13-14 between Sion and Matunga stations.

As a result of the accident 24 persons died and 30 others were injured out of whom 16 received grievous injuries. The cost of damage to railway assets was Rs. 30,000.

### Cause

The fire was caused by an inflammable liquid which was being carried by passenger/passengers in the compartment.

### Recommendations

(a) Inflammable material should not be used in the seats or any other portion of the compartment.

(b) P.V.C. sheets should not be used on account of the highly acrid fumes emitted by them when in contact with flames.

(c) The deficiency of the steps at door ways which effects the safety of the passengers should be made good.

(d) Window bars should be removed to facilitate emergency exit.

(e) Measures to prevent the carriage of inflammable materials by passengers should be tightened up.

(XXIX) Fire in Trailer Coach No. 646 A of 433 Dn. Churchgate Borivli suburban train at Jogeshwari station, Western Railway, on 7-3-1976.

### Description

At about 18.33 hrs. on the placid Sunday evening of 7th March, 1976, No. 433 Down was on the point of starting from Jogeshwari when the attention of the Motorman and the Guard was drawn to the Fire which had started in the third coach. Attempts were made to control the fire but it became intense and engulfed the entire coach within seven minutes. It was later brought under control and extinguished at 20.00 hrs.

There was no casualty in this accident. The cost of damage to railway assets was estimated at Rs. 4 lakhs.

### Cause

The occurrence of fire was in all probability the result of the latex foam cushion in one of the seats of the intermediate Ladies 1st class compartment being kindled by an extraneous heat source, such as a lighted match-stick either applied to it deliberately or thrown on it in utter carelessness by one of the travellers.

The responsibility for the accident lay with the unknown miscreant(s) or the heedless wayfarer.

### Recommendations

(i) Smoking should be prohibited altogether in suburban trains by enacting necessary legislation for the purpose.

(ii) The enclosure housing the MCBs,\* including the hinged cover may be shielded on the inside with an appropriate insulating material, suitable arc barriers may also be introduced between the MCBs, so that the arcing, if it takes place, is confined in space.

(iii) An additional fire extinguisher may be supplied to stations in the suburban section and all station staff trained in the proper usage of the extinguisher.

(iv) Putting up water tanks of about 22500 litres (5000 gallons) capacity at the various suburban stations, as a joint venture with the local-authorities, may be examined in consultation with them. This storage would also come in handy for tackling other fires in the neighbourhood.

(v) The cushions of the 1st class compartments on the I.C.F. coaches should strictly conform to the standard laid down by the RDSO. In any case, as the latex foam can be easily ignited by a naked flame and is highly combustible, its replacement by some non-fire excitable material is called for urgently.

(vi) The continuous air space 'between the inner and outer sheeting and connecting to the air space in the side and end walls' provided in ICF EMU stock as per extant specifications to prevent lodgement of condensed water serves to spread the fire rapidly. The possibility of re-designing this air space so as to do away with the 'flue effect' may be examined.

(XXX) Derailment at Banda Yard of Central Railway on 23rd March, '76

### Description

At about 10.25 hrs. on 23rd March, 1976, 6th Coach of No. 110 Up Lucknow-Banda Express, derailed after negotiating the turn out leading to the bay platform line at Banda station of Central Railway.

As a result of the accident, 4 persons received injuries out of whom one had grievous injuries. The cost of damage to railway assets was Rs. 7,750.

### Cause

The derailment was due to the breakage of the centre pivot upper part of the rear bogie of the coach. No responsibility was fixed on any individual or group.

### Recommendations

(a) The Section of centre pivot of the bogie of the type under reference should be strengthened.

\*Miniature Circuit Breakers.

(b) Lateral spring control for moderating the transverse forces in bogies would be beneficial.

**15(A) Serious Accidents wherein Inquiry was Entrusted to the Railway Administration**

(I). *Injury* to passengers at Danapur, Eastern Railway on 11-5-1975.

**Description**

At about 17.06 hrs. on 11-5-1975, No. 399 Up Passenger which has just left the platform was approaching the West Central Cabin when several passengers travelling on the foot board were knocked down by the rear SFR of another passenger train namely 384 Down which was standing on the adjacent line.

As a result of the accident, 9 persons were killed and 17 injured of whom 10 sustained grievous injuries.

**Cause**

The accident was due to the Driver of the engine of 46 Down who while shunting pushed the rakes of 46 Down and 384 Down to a point beyond the fouling mark.

**Recommendations**

Isolation should be provided on main lines No. 3 and 4.

(II). *Collision* at the West siding at Nayandahalli Halt on 16th May, 1975 of Southern Railway.

**Description**

At about 15.25 hrs. of 16th May, 1975, the load of ballast train No. 4 parted so many wagons ran into the buffer stop on the West siding at Nayandahalli Halt. One person died, 3 persons received grievous injuries and one person had minor injury. The enquiry was held by Railway Officers and reviewed by Addl. Commissioner of Rly. Safety.

**Cause**

The accident was caused due to combination of the following :—

- (a) The Yoke pin of wagon No. SRKL 29489 was missing.
- (b) The coupling assembly between two wagons had distinctive tendency to rotate freely.
- (c) Slackness in the coupling.
- (d) Pushing the load while backing the train on a steep falling gradient of 1 in 70.
- (e) Train being operated as non-vacuum.
- (f) Failure to apply the hand brake.

The Guard of the train was held responsible. The Driver of the train and the Chief Train Examiner were also held responsible.

The cost of damage to railway assets was Rs. 15,000.

**15(B). Incidence of Serious Accidents Inquired into during the period 1965-66 to 1975-76.**

The comparative position of the serious accidents during the year 1975-76 with those of the preceding years and the annual average during the 10 year period from 1965-66 to 1974-75 is indicated in Appendix 'D'.

It will be observed that the total number of serious accidents during the year has further gone up compared to the previous years. This is a cause for concern and needs serious attention on the part of the Railway Administration.

The numbers of serious accidents enquired into by the Commission of Railway Safety during 1975-76 under the different categories are indicated in Appendix 'B'.

In the Inquiries conducted by the Commission during 1975-76, 142 recommendations were made for improving the safety of railway working. By and large the recommendations made by the Commission have been accepted by the Ministry of Railways and necessary instructions issued by them to the Railway Administrations. Some of the recommendations are under correspondence between the Commission and Railway Board. A close watch has to be kept by Railway Board to ensure that recommendations accepted by them are effectively implemented by all the Railways.

**15(C) Accidents Enquired into by Railway Administrations**

It is impossible for the Commission of Railway Safety to enquire into all accidents falling under Section 83 of the Indian Railway Act. Statutory inquiries are generally confined to important accidents of serious nature. Other accidents like averted collisions, breach of block working regulations, signals passed at danger, attempted train wrecking, collisions at Level Crossings, derailments and failure of rolling stock and permanent way are inquired into departmentally by the Railway Administrations concerned and the inquiry proceedings are submitted by them to the Additional Commissioner of Railway Safety for scrutiny.

During the year 1975-76, the railway administrations furnished details of 375 train accidents into which departmental inquiries were held by the railway. These are summarised under different categories in the Appendix 'F'. A brief summary of some of these cases inquired into by the Committee of Railway Officers is given in Appendix 'C'.

A study of the proceedings of inquiries held by the railways indicated that defects in rolling stock and failure of railways staff were dominating factors for the increase in the

number of derailments and collisions. A special drive for improved and efficient maintenance of rolling stock and intensive safety counselling of railway staff is therefore necessary.

A comparative study has been made of the incidence of accidents on the various railways under main categories for the past four years viz. 1972-73 to 1975-76. The comparative position has been indicated in the Appendix 'G'.

From Appendix 'G', it will be observed that the number of accidents has almost remained the same as in 1974-75, but compared to 1972-73, there has been a substantial increase in the total number of accidents. The main increase has been in derailment which is quite marked on most of the railways.

Another category in which accidents have increased, is Level Crossing accidents. The majority of these accidents are due to carelessness on the part of the road users. The Commission has suggested to the Ministry of Railways to move the State Governments to make stringent provisions in the Motor Vehicle Act requiring the road user to observe certain precautions when crossing an Un-manned Level Crossing failing which penal action should be taken against him.

The number of cases of fire accidents have continued to be high. These accidents are a serious hazard particularly when they occur on suburban sections. Utmost care for their prevention is therefore necessary.



## CHAPTER IV

### MAINTENANCE OF RAILWAY ASSETS AND OPERATION

#### 16. Preliminary

Pursuant to the acceptance of a recommendation made by the Railway Accidents Committee, 1962, the Commissioner of Railway Safety is required to include in his Annual Report, a general appreciation of the condition and maintenance of railway assets, with special reference to safety in train operation. The reduction or otherwise in the incidence of consequential accidents is the index of safety in train operation in so far as the public are concerned and this has been already dealt with elsewhere namely, in Chapter III. Now in this chapter an appreciation of the state of maintenance of assets having a vital bearing on safety is given from observations made by the officers of the Commission, within the curtailed scope available for periodical inspections as brought out in Chapter II Para 10. The level of maintenance has essentially to be judged from instances of shortcomings and features typical of the general condition.

#### 17. Preliminary

Reports of Addl. Commissioner of Railway Safety and Deputy Commissioners of Railway Safety in the Technical Wing of the Commission, on inspections of Open Line Sections, New Lines, Doublings, Diversions and Electrification, give such specific instances of shortcomings and high-light several departures from the accepted practices and procedures. Some important observations contained in these reports of inspections during the year, which were duly communicated to the concerned Railway Administrations, are summarised below in broad outline. They indicate that there is scope for further toning up the machinery entrusted with the maintenance of asset and operation of trains on the Indian Railways.

#### A. THE PERMANENT WAY

#### 18. Formation

18.1. Although maintenance of formation was generally satisfactory, drainage at some places was noticed to be inadequate. Efficient drainage of formation being a 'sine qua non' for good and safe running on the rail road, constant attention to this aspect at the hands of Engineers and Supervisory Officials engaged on the upkeep of Permanent Way is indicated.

#### 18.2. South Central Railway

(i) Cess was low at Km. 250/-4-5, 244/4-6, 196/6-7 & Km. 16/7-8 (one side) on the Purli-Bajnath-Vikarabad Section, and at Km. 14/8-7, 44/10-12 & 122/9 (on one side) & Km. 165/1 on Wadi-Secunderabad Section.

(ii) Bank required making up at Kms. 262/10, 230/7-8 & 192/1 (cut due to trespassing) on the Purli-Bajnath-Vikarabad Section and at Km. 165/1 on Wadi-Secunderabad Section.

(iii) The slopes of the approach bank of Bridge No. 38 Km. 46/1 on Wadi-Secunderabad Section were steeper than prescribed.

(iv) There was stagnant water in the cutting at Km. 252/4-1 and side drains were to be opened out in the cuttings at Km. 208, & Km. 23-24 on the Purli-Bajnath-Vikarabad section. Side drains were required at Udgir station for efficient drainage of the yard.

(v) There were no trolley refuges in the cuttings at Km. 257/4-9, 254/1-9 & 23-24 on Purli-Bajnath-Vikarabad section.

(vi) Between Kamareddy and Nizamabad stations, there are some long cuttings where there were no trolley refuges at all e.g., the cutting at Km. 499/7-19.

#### 18.3. North East Frontier Railway

(i) On Brahmaputra Bridge-Lumding Section's at Km. 181/4, proper side drains in the cutting were required. The cess was also low and irregular at the following locations and required to be made up :—Km. 162/3 to 7, Km. 128, Km. 127, Km. 123/1 to 4 Km. 83/6 to 8 and Km. 82/9-10.

(ii) On Brahmaputra Bridge-Alipurduar section, the cess was low and irregular at Km. 215/5-10 and 12/2-4.

(iii) On Rangia-Rangapara North section, the cess was low and irregular at Km. 8/8 to 12 and required to be made up.

#### 18.4. Southern Railway

Trolley refuges between Erode and Podanur Jn. had not been provided alongside the Fast line in the cuttings at Kms. 402/5-1-5, 404/9-11, 414/6-9, 415/2-4, 416/4-8 and 420/5-8. Similarly, in the cuttings between Tiruppur and Irugur also no trolley refuges had been provided alongside the Fast line.

#### 18.5. Northern Railway

(i) *Shakurbasti-Jakhal section* : There were no side drains in the cutting at Km. 103/12.

(ii) *Bhatinda-Suratgarh section* : At a number of locations between Suratgarh (Km. 141.78) and Hanumangarh (Km. 92.24), the cess was almost level up to the top of the sleepers. In Kms. 79, 78, 61/4-8, 57/6-10 and 50/8-12, the cess was low and irregular.

(iii) *Delhi Cantt.-Sadulpur section*: In the cuttings at Kms. 43/10-12 and 44/3-4, proper side drains needed to be provided.

#### 18.6. South Eastern Railway

On the Palasa-Khurda Road section, the formation had generally narrow cess and borrow pits were made right upto the toe of the bank. The borrow pits gave rise to continuous channels with parallel flow necessitating costly protection works like pitching. The side slopes were also found steep at many places.

#### 18.7. Eastern Railway

(i) *Sainthia (ex)-Andal-Sitarampur section*: Maintenance of the formation was generally satisfactory. Side drains at cuttings at Km. 27 east of Panchra needed regrading as water was stagnating.

(ii) *Gaya-Mughalsarai-Patna section*: Formation was generally well maintained except that at places the toe of the bank had been dug into for cultivation. This practice required to be checked to prevent the erosion and slips of the bank which would occur if not checked.

#### 18.8. North Eastern Railway

(i) *Katarinian Ghat-Gonda section*: There was low and irregular cess at Kms. 117/7-6, 116/2-6, 111/4-7, 96/3-6, 70/4-8, 96/10-12, 53/8-10 and 47/1-3.

(ii) *Gonda-Gorakhpur section (loop)*: There was low and irregular cess at a number of locations. The most prominent were at Kms. 167/11-6, 166/1 to 10, 164/1-10, 163/11, 161/3-8, 134/3-4, 101/3-6 and 95/3-8.

(iii) *Nirmali-Sakri section*: On this section, cesses are low and irregular at a number of locations. The prominent locations were Kms. 59/6, 56/13-6, 55/8-12, 53/2-6 and 42/8-10.

#### 18.9. Western Railway

On Viramgram-Gandhidham section, there appeared to be considerable penetration of ballast into the formation between Km. 962 and Km. 700 where the alignment was almost at ground level.

#### 19. Curves

Curves seldom reached the unsafe condition. However there appeared to be need to check and maintain them more frequently than was being done in order to attain the objective of comfortable running condition, the known insurance against accident. The vital aspect for attention being the variation in versines and superelevation.

##### 19.1. South Central Railway

(i) *1° curve at Kms. 71/10 of Purli-Bainath-Vikarabad/Wadi-Secunderabad section*: There was a wide variation in versines both on the transition (Purli end) and the circular curve. On the circular curve the versines at stations 12, 13 and 14 read 6 mm, 20 mm and 7 mm respectively as against the nominal value of

10 mm. Gauge varied for 1 mm tight to 1 mm slack and the superelevation was 4 mm less at places.

(ii) *1.91° curve at Km. 122/2-10 on the Wadi-Secunderabad station*: Versines on the transition (Wadi end) were irregular, there being abrupt variation of 17 mm between stations 25 & 26. On the circular curve also the variation was abrupt e.g. 22 mm between stations 23 & 24. The curve required to be realigned.

(iii) Running was rough over the curves at Km. 20/11, 65/9, 114/9, 130/2-3, 131/9-14, 133/10, 162 and 170/11-12 on the Wadi-Secunderabad Section.

(iv) *3° curve at Km. 73/10-74/6 on Umdanagar-Dronachallam Section*: The run-up cant and superelevation were not indicated on the rail. The versines on the transition were irregular, the maximum variation being 8 mm from the prescribed value. The superelevation was also not regular, the maximum variation from the prescribed value being 12 mm.

##### 19.2. South Central Railway

(i) *3° curve at Km. 264/9-10 between Guntakal-Guntur*: Versines at the beginning of the transition at Guntakal end were irregular—2 mm against 0 to 1 mm against 3. On the circular curve versines were generally corrected. Superelevation, however, was irregular both on the transition and circular curve, the variation being as under:—Transition—8 mm against 20 mm, 18 mm against 25 mm, 26 mm against 30 mm, 30 mm against 35 mm; curve—32 to 36 mm against 40 mm.

(ii) *2° curve at Km. 645/7-1 on Guntakal-Guntur Section*: Versines on the transitions were irregular and there was abrupt variation between adjacent stations on the curve—15 mm between stations 10 and 11, 10 mm between stations 17 and 18 and 9 mm between stations 16 and 17. The cant gradient was also non-uniform.

##### 19.3. Central Railway

*1° curve at Km. 966/6-967/10 on Amla-Nagpur Section*: Test check at 13 stations was carried out. Variations at stations 119, 120 and 121 and at stations between 112 and 116 were quite marked.

##### 19.4. Eastern Railway

*2° curve at Km. 16/14-16 (Sonarpur-Anning Section)*: The versines were irregular near the transition. Super-elevation was also not very regular. Gauge varied from 3 to 8 mm slack.

#### 20. Track Maintenance

##### 20.1. South Central Railway

(i) *Gang No. 20 at Km. 122/13-14 of Wadi-Secunderabad Section*: Ballast was full of muck and was not being opened out to the prescribed depth of 50 mm below the sleepers for

efficient packing. In the previous day's work, 13 out of 30 sleepers were loose. Gauge varied from 1 mm tight to 4 mm slack and levels were out up to 5 mm.

(ii) On the platform loop at Mirzapalli station, a number of S.T. sleepers were corroded and required early replacement.

#### 20.2. North East Frontier Railway

**Brahmaputra Bridge-Lumding section :** On the track from Lumding to Brahmaputra Bridge consisting of 29.76 Kg/m. rails on wooden sleepers laid to N+3 density on straight and N+4 density on curves, laid in 1939 & 1942, the running on the track was not very satisfactory in that the joints were hogged, the alignment was kinky and the riding rough due to scarcity of ballast at a number of locations. The track from Chaparmuck (Km. 102) to Gauhati (Km. 11) was, however, somewhat better. Sustained efforts were required to provide sufficient quantity of ballast and to improve the condition of the track.

(ii) **Brahmaputra Bridge-Alipurduar Section :** The work of relaying between Alipurduar and Srirampur, Assam required to be carried out early.

(iii) **Gang No. 8 at Km. 211/4 of Brahmaputra Bridge-Alipurduar Section :** Mate, Puran Zubbu did not have proper knowledge of fixing banner flags for an Engineering Work or fixing flags or detonators in an emergency.

(iv) **Gang No. 26 at Km. 91/19 of Brahmaputra Bridge-Alipurduar Section :** Reflector in one of the H.S. Lamps was missing. Mate Jagwat Chatan was poor in his knowledge of protection rules.

(v) **Gang No. 3 at Km. 16/4-5 of Rangia-Rangapara Section :** When inspected in early April, 1975, both the H.S. Lamps with the gang had no reflectors. Mate, Bhola Sarju was poor in his knowledge of protection rules.

#### 20.3. Northern Railway

(i) **Lucknow-Faizabad Section :** At Km. 1090/10/12, more ballast was required on the out side of the curve. Between Lucknow and Barabanki, the joints were hogged. The curve at Km. 1036/1-3 was not satisfactory in alignment and cross levels.

(ii) **Munabao-Barmer Section :** The percentage wear of the 60 lbs. rails on Munabao-Barmer section appeared to be too high.

(iii) **Etawah-Kanpur Section :** In Km 1111/2-8, there was scarcity of ballast which required to be made good. Lurches were felt at a speed of 110 Km./h at Kms. 1103, 1092/4-8, 1089/6-8, 1088/16-18 and 1087/11. At Phaphund station, there was no ballast on the reverse curve at either end of the Up loop line, although ballast existed on the straight portion.

(iv) **Shakurbasti-Jakhal Section :** Between Shakurbasti (Km. 10.19) and Rohtak (Km. 99.91), the Up track consisted of 90 R rails on CST-9 plate sleepers laid to N+3 density.

The rails were in 3 rail welded panels and the ballast cushion was about 150 mm. Although track was laid in 1972-73 and was only 2 to 3 years old. The rails had developed kinks at welded joints as well as at fish plated joints. This appeared to be the effect of having laid the track initially with insufficient ballast and allowing trains to run at increased speed before the track had stabilised.

(v) **Delhi Cantt-Sadulpur Section :** Rough running was experienced in Kms. 181, 158, 73, 35 and 34.

(vi) **Delhi-Cantt-Sadulpur Section :** The Creep register showed that even after the creep had reached the limit of 6", the same was not adjusted. For instance, in Km. 219 the creep was 7" on 4-9-70 and only when it reached 16" on 3-4-71, the same was adjusted. Similarly in Km. 200, the creep was 6" on 23-11-74 and only when it reached 8" on 10-12-74, the same was adjusted. In some kilometrages such as 205 and 218, the creep was 6" or more but had not been attended to.

(vii) **Bhatinda-Suratgarh Section Gang No. 16 at Km. 122/10-12 :** The previous day's work done by the gang was checked. The gauge varied from exact to 2 mm slack. At some locations the right rail was lower upto 2 mm while at others, the left rail was lower upto 2 mm. The work done could not be said to be satisfactory. At the rail joints, ACB plates (which had one bolt hole inside and two bolt holes outside) did not have all the 3 bolts in position.

#### 20.4. North Eastern Railway

(i) Between Intiya Thok and Bhawanipur Kalan and Pachperawa and Barhuni station on Gonda-Gorakhpur section, there were too many low joints and the running was not satisfactory.

(ii) On Gainsari-Jarwa Branch line, a number of consecutive wooden sleepers were unserviceable. These sleepers were also marked by red paint. No consecutive unserviceable sleepers should be allowed to remain in the track and none at the joints.

(iii) **Lalkua-Bhoujipura Sections :** At Bareilly end of Lalkua station and also at Km. 45/6, heavy oscillations were set up in the Inspection Carriage indicating that either the cross levels were out or joints were low or both. Between Kms. 40 to 42 and also between Baheri (Km. 55.52), and Richha Road (Km. 62.76), the track was kinky and in a run down condition.

(iv) **Bagah-Darbhanga Section :** Between Bagah (Km. 287/7) and Narkatiaganj (Km. 246), the track consists of 50 lbs B. S. rails on wooden sleepers laid to N+3 density laid in 1920-22 and was over 50 years old. The track maintenance was not satisfactory. The ballast was scattered, dirty and caked. Grass had grown on the cess at a number of locations and the cess was low and irregular. The joints were battered and low at a number of locations and the running was not satisfactory. It was understood that the relaying of this track had

been sanctioned over two years earlier but the work had not started. Necessary steps required to be taken to expedite the relaying. In the meantime, the track should not be neglected but efforts should be made to maintain it in a proper condition.

The same conditions existed on the track between Raxaul (Km. 187) and Kamtaul (Km. 60).

(v) *Chhapra-Thawe Section*: The Creep Register showed that in Km. 89, there was more than 150 mm creep since 11-12-74. Similarly in Km. 61, there was more than 150 mm creep since 30-4-75. No adjustment of creep had been done.

#### 20.5. North East Frontier Railway

*Mariani-Lumding Section*: The track was generally 60 R rails on hard wood and soft wood sleepers with N + 2 and N + 3 sleeper density except in portions where it was relaid with new 60 R rails on CST-9 sleepers to N + 3 and N + 4 and latterly to M + 7. However, due to poor supply of rails, progress of rail renewals has been slow. The rails of 1937, 1939 and 1942 had developed very heavy corrugations and were still continuing in the track.

The condition of wooden sleepers where renewals of CST sleepers had not been effected was not good. In spite of annual renewals the percentage of unserviceable sleepers wherever checked varied from 15 to 25%. In fact some of the sleepers were so spike killed that the dog spikes or round spikes could be pulled out with hand.

It is a matter of concern that the track, the condition of which justified relaying in 1970-71 and 1971-72 had not been relayed due to non-availability of rails. This required attention at the highest level.

The running was particularly unsatisfactory between Mariani Jn. and Furkating.

#### 20.6. Western Railway

The incidence of rail fractures on the Viramgam-Gandhidham section was high (75 Nos. in period 21-2-1972 to 12-2-1976). Since the track in this section consisted wholly of second hand rails, the advisability of ultrasonic testing of rails in the entire section as early as possible and therefore annually, was evident.

#### 20.7. South Central Railway

While the running was generally good from Guntakal to Dronachallam, beyond, it was rough at speeds approaching 75 Km./h on the wooden sleeper road where the percentage of unserviceable sleepers was reported to be as high as 40%. Renewals appeared urgently necessary in this portion.

#### 20.8. Arrah Sasaram Light Railway

Running was particularly bad between Sajh-auli and Ghusiya-Kalan. On the rest of the line

also it was not very satisfactory. Track maintenance generally required to be improved in order to obviate the consequence of a reduction in the present maximum permissible speed of 40 Kmph. There was a bad lurch at Km. 39/10.

### 21. Maintenance of Points and Crossings

Points and crossings generally constitute a weak point in the maintenance of track particularly in respect of the state of packing of the sleepers at the crossings and points. A refreshingly commendable effort was however noticed on certain portions of the Meter Gauge divisions of the Western Railway where it was difficult to distinguish from riding characteristics on the points and crossings from the good track on either side.

#### 21.1. South Central Railway

(i) *Ghat Nandur station on Purli-Bajnath-Vikarabad Section*: Facing points at the Purli end—steel turnout. Gauge was 4 mm slack on the turnout at places and levels were out up to 23 mm on the straight and 19 mm on the turnout. The alignment of the turn-in curve was kinky. The distance blocks behind the nose of crossing had short bolts. Ballast was full of muck.

(ii) *Mohamadabad Bidar station on Purli-Bajnath-Vikarabad section—Points No. KL-2-(1 in 12 steel turnout)*: Some of the distance blocks in the switch portion had short bolts and none of them had spherical washers. Ballast was deficient.

(iii) *Shankarpalli Station on Wadi-Secunderabad Section—Points No. at Km. 139/13-14*: Short length bolts used on the nose block of the crossing needed to be replaced.

(iv) Rough running was experienced over the Down Facing and Trailing Points of Sulehalli, Chittapur, Malkhaid Road, Down Trailing Points of Gullaguds and Facing and Trailing Points of Lingampalli stations on the Wadi-Secunderabad section.

#### 21.2. North East Frontier Railway

*Point No. 104, 1 in 8½ on wooden sleepers at Hojai station of Lumding Section*: The gauge was 6 mm slack at the toe. It was exact to 1 mm tight at other places. The cross levels at the heel of the crossing varied from 10 mm to 15 mm and required immediate adjustment. The Spherical washers at the heel were not correctly fixed. Sleepers behind the crossing were not laid to the correct angle.

#### 21.3. Southern Railway

(i) The running was bad over the Facing and Trailing Points of Changanacheri and Chingavanam stations and over the Trailing Points of Kuruppantara station.

(ii) *Points No. 66/B at Erode station*: A 90 R, 1 in 12 turnout it was laid in January 1971. Behind the crossing, the spikes were

loose and were not holding the rail. Check rail surface was higher than the running rail. Non-standard bolts had been used. The distance block at the toe of the crossing was tilted and the bolt was bent. The gauge varied appreciably, particularly on the turnout and was slack by 10 mm at two locations. Cross levels also varied appreciably.

(iii) *Podanur Station—Points No. P/30*: This is a 90 R, 1 in 12 turnout laid on wooden sleepers in August, 1971. There was considerable wear on the tip of the left hand switch and there was heavy corrosion throughout. Anti-Corrosive painting was evidently necessary at regular intervals to arrest the corrosion. Several bolts, nuts, stud bolts and fish bolts in the crossings as well as on the leads were loose. The full complement of spikes had also not been provided in most of the bearing plates. Behind the heel of the switch, wooden blocks and pipes had been provided in lieu of C. I. distant blocks and two of the wooden blocks were crushed. There were wide gaps at the heel of the crossing as well as at the joints on the lead portion one joint being as wide as 20 mm. The cross level at the nose of the crossing was out by 16 mm on the main line and 17 mm on the turnout. The gauge at the toe of the switch was slack by 13 mm. The maximum wear on the wing rails was 7 mm. The condition of this turnout was not very satisfactory.

#### 21.4. Central Railway

*Godhani station (Amla Nagpur section) Point No. 106/B*: The gauge near the switch was tight between 13 and 19 mm. A large number of fittings were slack and packing of many sleepers was loose.

#### 21.5. Northern Railway

(i) *Saharanpur-Meerut section*: The tongue rails of point Nos. P 16, P 14 and P 10 on the main line at Meerut end of Muzaffarnagar station were chipped and required replacement.

(ii) *Point No. K1 at Bijnor station*: The Main track was on 2° curve and the turnout for the loop line took off from inside the curved track. The gauge was exact throughout. On the main line there was a cant of 40 to 45 mm but the cant on the turnout curve beyond the crossing and further ahead varied rapidly from place to place and was not in accordance with the standards laid down in the Indian Railways and Works Manual. There was a wear of 10 mm on the wing and 12 mm on the nose and the crossing required to be changed or reconditioned by welding. Spherical washers used for fixing distance blocks near the crossing were wrongly used. The ballast was full of muck. The sleepers behind the crossing were not laid to the correct angle.

(iii) *Point No. K3 1 in 8½ on wooden sleepers at Hanumangarh station*: The cross levels were out up to 5 mm on the lead portion and at the crossing. Some of the sleepers

were rotten and unserviceable and required replacement. The ballast was dirty and caked and the drainage required improvement. Smaller gauge ballast was indicated for the turnout.

#### 21.6. South Eastern Railway

(i) *Point No. S. 20 at Midnapore*: The maintenance of points and crossings at Midnapore particularly at the Kharagpur end was extremely poor. The curve at Adra end of first loop (Platform line) of Midnapore was very sharp.

(ii) *Point No. S. 8 (1 in 8½ with 90 R rails) at Sompeta station*: The expansion gap was very wide in front of the crossing. The left wing rail clearance was excessive being 1 15/16 inches. The bolts were found to be loosed at the heel of the switches. A few sleepers were found blowing.

#### 21.7. Eastern Railway

(i) *Diamond crossover on Down Main line at Nahati (Points No. 4 1/36)*: Some sleepers needed replacement. The joints at the ends of the diamond crossing needed immediate attention and adjustment of the gaps. Packing and fittings were found to be loose.

(ii) *Points No. 8 on Main line at Lakshmi-kantapur*: Gauge was found to be 4 to 5 mm tight at the heel block. Cross level was out by 5 mm behind the toe.

(iii) *Points No. 20 at Km. 270/18 at Dhanbad*: The points and Crossings Register of P.W.I. Pathardi did not indicate the compliance of instructions or any evidence of inspection by Assistant Engineer or Divisional Engineer. The inspection of the curve Register of the same P.W.D. revealed that no curve had been inspected after March '75. Dates of survey of the versines were also not recorded.

#### 21.8. North Eastern Railway

(i) *Point No. 4 (1 in 12) on wooden sleepers at Bichia station*: There were only 2 dog spikes in fixing bearing plates to the sleepers in the turnout portion against 4 prescribed. The sleepers had warped under the nose and the crossing, affecting gauge and cross levels.

(ii) *Point No. 14 (1 in 12) on Wooden sleepers at Sitamarhi station*: The right tongue rail was chipped and required replacement. No spherical washers were provided in fixing distance pieces between the main and tongue rails. One sleeper behind the crossings was missing and 2 sleepers were in broken and burnt condition. The gauge was slack on the lead portion upto 3 mm and required adjustment. The cross-levels were out in the lead portion, the sleepers having warped. The ballast was dirty and caked and the drainage required improvement. The register of Points and Crossings indicated inspections done every three months as laid down but there were no remarks in the 'Compliance' column.

(iii) *Points and Crossings Registers*: P.W.I's on certain sections of N.E. Railway did not



show any schedule of inspection by A.E.N's nor did the register of PWI, Hathras Road show any inspection by AEN. This required to be looked into and system of inspection by AEN's enforced.

#### 21.9. Arrah Sasaram Light Railway

(i) *Points No. 4 at Garh Nokha*: 30 lbs. rail, 1 in 8½ gauge was correct, cross level was out by ¼" near the crossing. Nose blocks of the crossing were broken and needed to be changed immediately. The point rail was also not seated properly.

(ii) *Points No. 3 at Garhani station*: 30 lbs. rail, 1 in 8½. One fish plate was broken. One nose block as well as check blocks were broken.

(iii) The condition of 30 lbs. points and crossings was extremely poor. As their components and fittings were not readily available standard section layouts on a programme basis.

### B. LEVEL CROSSINGS

#### 22. Level Crossings

##### 22.1. South Central Railway

(i) *Unmanned Level Crossing No. 3 at Km. 12/5-6 of Wadi-Secunderabad section*: Non-Standard 'Siop Boards' should be replaced by standard ones. Clearance was slightly tight on 2 check blocks.

(ii) *'A' Class Traffic Level Crossing No. 5 at Km. 36/5-6 of Wadi-Secunderabad section*: There were marks of wheel riding on a few check blocks and clearance was tight at some. The spare chains were of short length. Gateman Ellappa Veerayya, who had passed the last vision test with glasses, was not wearing the same. He was not aware that locations where detonators were to be placed in an emergency had been delineated on the alignment.

(iii) *'B' Class Engineering Level Crossing No. 231 at Km. 559/10-11 of Secunderabad-Nezamabad-Bodhan Section*: This was now single manned and the gates were kept closed between 18.00 hrs. and 06.00 hrs. The Gate-man (Lachal Bagaiah) was tested in the protection rules and was found knowledgeable. He had passed his medical examination with glasses, but was not wearing the same. He did not have the spare set with him. The road surface needed to be improved. Check rails were higher than the running rail. The rail joints on the approaches were jammed for some distance and required adjustment early.

(iv) *Umdanagar-Dronachellam section*: There were many level crossings on the section which, though situated on busy roads, provided with swing type gates, which required to be replaced early by lifting barriers as envisaged under para 1602(c) of the Indian Railways Way & Works Manual.

##### 22.2. North East Frontier Railway

(i) *'B' Class interlocked level crossing at Km. 188/6-7 of Brahmaputra Bridge Lumding*

*section*: Wicket Gates did not exist and required to be provided. Reflector in one of the H.S. lamps was missing. The gauge of track and clearance of check rails were in order.

(ii) *'C' Class level Crossing at Km. 211/4-5 of Brahmaputra Bridge-Alipurduar Section*: There were fixed Gate Lamps on the gate posts on either side which always showed red light to the road traffic and did not show white light when the gates were open to the road. The arrangements needed modification.

(iii) *'B' Class level crossing at Km. 25/11 of Rangapara-Tezpur section*: On the distance blocks between the main rails and check rails, riding marks of wheel flanges were seen; the blocks required to be adjusted. The orientation of lights fixed on the gate required adjustment.

(iv) *Rangapara-Tezpur section*: At a number of unmanned level crossings, particularly on Brahmaputra Bridge-Alipurduar section, the portion between the check rails was depressed. The road vehicles were likely to get stalled while crossing the track. The depressed portion should be made level.

##### 22.3. Southern Railway

(i) *Traffic Level Crossing No. 25-B within station limits of Karungapalli station*: The gate has no telephone connection with the station and communication was by exchange of hand signals which was not satisfactory. Provision of telephone communication was indicated.

(ii) The road approaches to several unmanned 'C' Class Level crossings were seen to be very steep and there was also no level portion outside the gate posts e.g. Level Crossings No. 168, No. 167 and No. 175 on Tirupappuliyar-Tiruchirappalli section and Level Crossings at Km. 141/15-16 and Km. 130/5 on Villupuram-Madras Egmore section. These should be made up properly at all such Level Crossings.

##### 22.4. South Central Railway

(i) *Level Crossing No. 295/E at Km. 645/11-12-B Class on Guntakal-Guntur section*: The roadway was not level between the gate posts and for the prescribed distance beyond. Orientation of gate lamp on one side required adjustment.

An extract of the Station Working Instructions had been displayed. This did not provide for exchange of private numbers between the Gateman and the Station Master, which was most desirable. Special Working Instructions detailing also the action to be taken in the case of failure of communications and non-receipt of information about approaching trains on that account, should be framed, posted at the gate lodge and explained to the Gateman.

##### 22.5. Central Railway

*Unmanned 'C' Class Level Crossing No. 284-A and 1024 on Nagpur-Amla section*: These

level crossings as also several other unmanned level crossings needed attention in respect of the gradients of the approach roads.

#### 22.6. Northern Railway

(i) *Shahjahanpur-Sitapur section*: There was no prescribed whistle board on Sitapur side of the unmanned level crossing at Km. 2/8 and also at Km. 59/12.

(ii) *'D' Class cattle crossings on the Pipar Road Balotra section*: It was seen that a number of 'D' Class cattle crossings on this section were being used by vehicular traffic though these were not provided with check rails. It was understood that the question of converting these into unmanned 'C' Class level crossing was under correspondence with the State Government. From considerations of safety, however, it was necessary that vehicular traffic was prevented from using these level crossings by provision of rail stakes, until such time the check rails were provided and these were converted into unmanned 'C' Class level Crossings.

(iii) *Gate No. 123 B at Km. 1116/24 on Etawah-Kanpur Section*: No wicket gates were provided on either side and though required. The overhauling of the level crossing was done in January, '75. The Up loop track was at a lower level compared to be other 3 tracks and should preferably be brought to the same level as that of the other tracks. The road way was rising towards the gate on the north side and falling towards the gate on the south side; the same should be made level between the gates and for a distance of 6 metres beyond.

(iv) *Level Crossing No. 25 A at Km. 782/20 on Allahabad-Mughalsarai Section*: The road approaches were steeper than permissible on either side and needed to be eased so as not to be steeper than 1 in 40. The overhauling of level crossing was done on 13-11-73 and was due. The visibility of the gate lamp from the Down side was affected by the compound wall of a service building close by, while the visibility of the gate lamp on the Up side was affected by the approach road being on a curve. The visibility could be improved on either side if the barriers were opened from Allahabad side posts instead of from Mughalsarai side posts and the lamps fixed near the former posts.

(v) *Level Crossings on either side of canal bridge No. 63 D at Km 145/11-12 (Bhatinda-Suratgarh) Section*: Each of these level crossings was provided with chains between the posts to close them. The chains had, however, no locks with the result that anybody could open the chains and pass the road vehicles. This should be brought to the notice of the canal authorities and they should be urged to put locks to prevent the crossings being unauthorisedly used by other than irrigation vehicles.

#### 22.7. South Eastern Railway

*Cuttack-Paradeep section—Km. 412/2 (double manned 'C' Class level crossings)*: There were no automatic catches. Only casual

labourers were manning the level crossing. The gateman on duty was tested in rules and found to be not quite conversant. No prescribed road signs were provided at the approaches to the level crossing.

#### 22.8. Eastern Railway

(i) *Level crossing No. E/52 at Km. 64/15-17 on Sealdah-Rangahat Section*: Had been last overhauled in February, '75. One hand signal lamp was not working. Ratan, Gatekeeper, was a little confused about fixing the hand signal flag.

(ii) *Sainthia-Andal-Sitarampur Section*: The gradients on the approach roads within the railway boundary at unmanned level crossings at about Km. 68/13 and 67/8 should have been made flatter. Whistle boards were also not according to the current standard design and were missing for some unmanned level crossings.

#### 22.9. North Eastern Railway

(i) *Level Crossing No. 12-A at Km. 116/5-6 on Katarniaghata-Gonda section*: This was a newly constructed 'A' Class level crossing. It was not protected with signals but a telephone had been provided in the Gate Lodge. There was however, no arrangement of exchanging private numbers between the Station Master and the Gateman which was necessary to ensure that the telephonic messages were correctly given and received. The gate Lamp on the left gate facing Gonda was not turning properly with the lifting of the road barrier and required adjustment.

(ii) *Lalkua-Bhojipura section, Level Crossing No. 32 A at Km. 43/7-8*: The gate was kept open during day time to road traffic but was closed to road traffic at night. There was heavy traffic through this level crossing end, therefore, the work of widening the road from 3 metres to 5.5 metres was in progress. The gate was not provided with protecting signals or a telephone in the gate lodge. The track was on a curve at Lalkua end, the visibility was not satisfactory and the road traffic heavy. No special instructions for working the gate existed at the level crossing. Wicket gates were required to be provided on either side.

(iii) *Nirmali-Sakri Section*: At a number of 'C' Class unmanned level crossings, the road approaches were steep and full of depressions in the road surface between the rails. The road surface between the rails should be made level, to obviate the danger of road vehicles stalling while crossing the track. At a number of unmanned level crossings, the Warning Boards had become faint and indistinct and needed to be repainted.

(iv) *Level Crossing No. 4C at Km. 22/5-6 in Rasra Yard on Mau-Ballia Section*: This was a traffic level crossing operated by the pointsman from the station. Its normal position was open to road traffic.

No inspection book was maintained for traffic level crossings on this section and it could not be ascertained when the track over this level crossing was last overhauled. The rail joints on both side of the road surface were hogged. The guard rail, though of correct length, did not project for the requisite distance from edge of metalling on the station side. Either realigning of the road crossing and/or shifting of the facing point should be considered. The check rails were also higher than the guard rails. Here again the gate catches were not operating satisfactorily.

(v) *Traffic level crossing gate inside Down outer of Badaun station*: Lifting barriers erected on Kanpur-Kasganj section did not have links below the tubular bar with the result that pedestrians and small animals like goats could easily pass through under the bar. It was stated that links were removed in accordance with orders of the Railway Board. However, on the Mathura-Kasganj-Bareilly City section, it was noticed that these existed. It was considered that provision of links should continue.

#### 22.10. Western Railway

'C' Class level Crossing No. 153 at Km. 187/12-13 on Gandhidham-Palampur section: This was un-manned level crossing across the National Highway. It was understood that there was an accident at this crossing in 1974-75 and pursuant there to a proposal had been made for manning the level crossing which was pending concurrence of the Gujarat State Government. Manning should be expedited in the interests of safety by taking up the matter at a higher level.

#### 22.11. Arrah Sasaram Light Railway

Level Crossing at Kms. 59/1-2 'C' Class unmanned: Check blocks were broken and needed replacement. Flangeway clearance was more than  $2\frac{1}{4}$ ". Gauge varied from  $1\frac{1}{6}$ " slack to  $1\frac{1}{16}$ " tight and cross-level by  $\frac{1}{8}$ ". The level crossing was overdue overhauling.

### C. BRIDGES

#### 23.1. South Central Railway

(i) *Manjira Bridge (No. 178) at Km. 140/8-10—3×12.20 m+9×18.29 m girders of Purli-Bajnath Vikarabad Section*: A few bearing plates were loose and spikes were missing on some. The clear spacing between sleepers was more than the maximum permissible at some places.

(ii) *Bridge No. 39 (Iyyala River) at Km. 46/10-12(26×8.38 m girders) of Wadi-Secunderabad Section*: There was a speed restriction of 15 Km/h on the bridge due to weak girders. Full complement of spikes should be provided on the bearing plates on the bridge were rattling and some spikes were missing, the few burnt out and perished sleepers required to be changed early.

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(iii) *Bridge No. 173 at Km. 139/13-14—3×4 m span girders of Wadi-Secunderabad Section*: The top of the guard rails was nearly 45 mm below the top of the running rails as against the maximum of 25 mm permissible. A few holding down bolts were skew Gauge varied from 1 mm to 3 mm tight and levels were out upto 8 mm. The inspection note of the AEN, dated 29-1-75 regarding rectifying the gauge and levels had not been attended to.

(iv) *Bridge No. 661 across Pushpa River at Km. 566/11-12 (4×18.3 m Girders) on Secunderabad-Nizamabad-Bodhan section*: The H.F.L. of 1947 was marked. The H.F.L. of 1959, which was lower than that of 1947, had also been marked and should have been erased. Predetermined safe level mark existed but was not prominent. The girders were last painted in 1968 and were overdue painting. There are holes in the top flanges of the girders which should have been rivetted. Stone masonry in piers and abutments was in good condition but the bed blocks on piers 1 and abutment 2 needed grouting. On the Nizamabad approach a few rail anchors and spikes were found loose. Approach joints were jammed and should have been pulled back.

#### 23.2. North East Frontier Railway

(i) *Bridge No. 124, 4 × 18.28m. girders at Km. 131/3 of Brahmaputra Bridge-Lumding section*: The painting of the girders was done in April, 1973 but the quality of work was not apparently satisfactory as flaking out of the paint was taking place all over the girders. The position needed to be watched and repainting done, if necessary. Oiling and greasing of bearings was done in March, 1975 but did not appear to be done properly in that the surfaces were not properly cleaned and oil/grease was not properly applied.

(ii) *2 Spans of 18.3 metres each girders bridge at Km. 221/10 of Brahmaputra Bridge Alipurduar section*: Painting of girders was done in December 1972 but the top and bottom of the flanges were corroded and needed repainting. The date of oiling and greasing of bearings was not painted on the girders nor was it found in the Bridge Book. Two spikes should have been provided on the inside of guard rails instead of only one provided on each timber.

(iii) *2 × 12.20 m girder bridge at Km. 28/4-5 of Rangia-Rangapara Section*: The hold-down bolts were loose in the holes on the piers and required to be grouted. The gauge varied from exact to 3 mm slack while the cross levels were out by 2 mm.

#### 23.3. Southern Railway

(i) *Bridge No. 19 at Km. 12/7-9 on the Quilon-Ernakulam Section*: According to the details painted on the end girder, rivet testing was not to be done on the bridge. It was explained that this instruction was intended to ensure

that the metallizing was not damaged. As testing of rivets at prescribed intervals was necessary in the interests of safety the instructions needed to be amended and the precautions to be taken during rivet testing laid down.

(ii) *Bridge No. 409 at Km. 478/10-11 on Erode-Podanur Section*  $1 \times 4.57$  m (15 ft.): Arch extended as RCC slab: The newly extended portion appeared quite sound. The arch had been plastered and there was a circumferential crack two metres from the south face which should be grouted and provided with tell-tales. Two different predetermined safe levels were marked, one of them a foot below the slab for the RCC portion and the other at the springing level in the arch portion. There should have been only one danger level namely the lower of the two. The head room under the arch was only 2.4 m from the floor level. Suitable height gauges should have been fixed on both approaches to the bridge so that vehicular traffic did not damage the arch.

#### 23.4. South Central Railway

*Guntakal-Guntur Section Bridge No. 439 at Km. 600/5-6 Konkeri Vagu—* $8 \times 12.19$  m girders: The pitching at the end of one of the wing walls was disturbed and should have been rest. Some hook bolts were not square and a few other were unduly short. Hook bolts were missing on 15 sleepers and some of the sleepers had no holes even, for fixing the hook bolts. End binding was deficient on most of the sleepers. Some bearing plates were rattling and spikes were missing on a few (on the approaches as well). On some sleepers, the dog spikes were sticking out. A number of sleepers were split, several sleepers were undersized and retimbering was urgently called for.

#### 23.5. Northern Railway

(i) *Lucknow-Faizabad Section*: On the Gomti Bridge at Km. 1090/10, 2 spikes instead of 1 spike should have been provided per rail seat on the inside of the guard rails. The same remark applied to several other girder bridges on the section.

(ii) *Bridge No. 27 at Km. 730/7-10 on Pipar Road-Balotra/Munabao-Balotra Section*: This bridge consisted of 10 spans of 6 ft. arches. The condition of masonry was satisfactory. The bridge sleepers were of 1963 and 1965. About 30% of the sleepers needed replacement urgently. The H.F.L. on this bridge was also about 4 ft. above the R.L. The pitching on the approaches was disturbed at a few locations and needed to be reset.

(iii) *Bridge No. 304, 3/18.30 m girders at Km. 1054/15-19 on Etawah-Kanpur Section*: The girders were last painted in October, 1968 and painting was overdue. The Oiling and greasing of bearings was done in 6/73. Guard rails were not provided with 2 spikes inside per rail seat. Some of the timbers were creaking due to end binding not having been done. Plaques showing the details of foundations and

soil strata were not fixed on piers and abutments.

(iv) *Bridge No. 270, 5  $\times$  22.87 m girders at Km. 172/3-4 on Saharanpur-Meerut Section*: The girders were last painted in Jan. 1970 and the repainting was due. Particularly the underside of the girders and the cross bracings between 2 girders were badly corroded and required painting early. The oiling and greasing of bearings was done in 1973 but the date was not painted on the girders. The guard rails should have been provided with 2 spikes instead of 1 spike per rail seat on the inside. Plaques showing the details of foundations and soil strata required to be provided on piers and abutments.

(v) *Laksar-Dehradun Section*: At a number of girder bridges it was seen that there was only one spike instead of 2 spikes per rail seat the guard rails towards the centre of the track.

#### 23.6. South Eastern Railway

*Bridge No. 143 (16  $\times$  100' underslung girders) at 125/5-15 on Howrah-Tatanagar Section*: A speed restriction of 50 Km/h had been imposed on this bridge due to high percentage of loose rivets (16.67%)—in the cross girder to rail bearer connections; Replacement of the loose rivets required to be expedited. Ends of guard rails should have been bent down and buried in ballast. Only the highest H.F.L. observed need be painted on the piers along with the predetermined safe level mark. Hook holding down bolts should preferably be outside the running rails and the space between the running and guard rails should be free of any obstruction.

#### 23.7. Eastern Railway

*Bridge No. 9 C (1  $\times$  176' G) at Km. 26/10-11 on Sonarpur-Canning Section*: Patch painting had been done apparently without cleaning the rust and scales and also without shifting the sleepers. Flooring, girders and stringer were corroded badly at the ends.

#### 23.8. Western Railway

*Bridge No. 41 (Banas) on Gandhidham Palampur Section at Km. 30/8-12 (15  $\times$  24.38 M girders)*: Full complement of dog spikes should have been provided on the wooden sleepers at the approaches to the bridge. Many hook bolts were undersized. Chiselling of arrows on the hook bolts needed checking. It was desirable that the stock of boulders required for pitching was worked out from past experience and kept as a reserve at the bridge site stacked above the H.F.L.

#### 23.9. Arrah Sassaram Light Railway

*Bridge No. 160 (2  $\times$  25'—0" & 1  $\times$  40'—0" G) on well foundation at Km. 75/9-10*: Girders were last painted in November 1968 and repainting was overdue. The top flanges should have been painted by shifting the sleepers. A few hook bolts were loose. Bridge sleepers were in fairly good condition.

## D. SIGNALLING

### 24.1. Central Railway

At Ravli Jn. Station the electrical signal maintainer on duty who had undergone full training in 1968, had not gone subsequently for refresher course.

### 24.2. Eastern Railway

24.2.1. During the trial run by C 247 local the Automatic Warning system did not respond correctly at Chandanpur. When the Distance signal was exhibiting Double Yellow the engine equipment though responding correctly in the first instance, shortly thereafter got normalised automatically. After a short while the equipment again gave a correct response and the brakes became applied. This momentary normalising feature was a wrong side failure and the railway was advised to investigate and take suitable action.

24.2.2. At Howrah, in the power room of the route relay installation, the converters for supply of 110 V, 83 1/3 cycles for track circuit were not provided with protective covers on their belts although the covers were available.

24.2.3. Arc levers of cross-covers at terminal end for taking off incoming engines were not padlocked. One of the electric locks cover was also missing.

### 24.3. Northern Railway

24.3.1. Simla: (A) A set of duplicate 'E' type keys was housed in a glass fronted case which was sealed. A special register was maintained in the station regarding the use of these key; but an important omission was the time and date on which the key was restored and the case resealed by the S&T staff.

(B) The leverframe in the cabin was last overhauled on 23-11-70 and the next overhaul was overdue by 2 years.

24.3.2. Chandigarh: (A) The platform line was found to have a heavy deposit of coal ashes at several locations along its length.

(B) From a leaky water column the water was continuously leaking and stagnating in the track forming large puddles.

(C) The drain recently constructed in the yard was completely filled by sand and silt.

These conditions could result in track circuit failures particularly when the general level of the ballast resistance was low during the monsoon period. Urgent remedial measures were therefore warranted.

(D) Few location boxes including one in which important equipment like emergency crank handle for operation of the motor points was housed were found unsealed.

24.3.3. Kashi Station: (A) At Kashi signals were controlled and operated by the two cabins. Of course the line for reception of

trains was allotted by the A.S.M. but ASM did not have the desirable control over signals.

(B) The platform lines were track circuited. Their occupation was indicated in both the cabins but not in the ASM's office. As the responsibility of the allotment of line for the reception of trains rested with the ASM, it would be of advantage if indications of the platform tracks were provided in the ASM's office also.

(C) With the existing position of the West cabin the tail lamp of the stopping Dn goods trains on line No. 2, 3 & 4 could not be seen by the Switchman of the cabin and therefore, it was not possible for him to give the out report of the train on its arrival without making extra efforts to ensure the complete arrival of the train. The Station Master should have maintained a 'COMPLETE ARRIVAL REGISTER' for the purpose of obtaining complete arrival certificates from Guards of stopping goods trains in terms of S.R. 135/3(d) of Northern Railway.

(D) Scrutiny of signal failures revealed that though there was appreciable decrease in the total number of failures at this station, the failures of Up and Down Advanced starters were on the increase. A joint investigation by the Signal and Traffic staff was proposed, to find out the actual cause of frequent failures of Advance Starters and take suitable action to stop the recurrence.

(E) The generator for feeding the signal circuit in case of power interruptions, provided by the signal department was reported to be out of order for a long time. Secondly, there was no staff for operating the generator. The railway was requested to put the generator in working order.

(F) The lever frame of East and West cabins were last overhauled on 9-9-70 and 22-9-70 respectively. Both these were overdue overhauling since 1973.

(G) Most of the signalling relays were due for overhauling, the oldest one being of 1955.

(H) The Up warner signal was located outside of the Malviya Bridge at Vyas Nagar end. There was a very sharp curve starting from the bridge end, and it was not possible to focus the existing signal to cover such a wide range of spread. Secondly, the signal not visible from the end Sighting board due to bad background and also trees coming in front of the signal. The 1st Sighting Board was located about 190 m (350 ft) away from this signal. If the warner signal was shifted to the place first sighting board, the visibility of the signal would be much better.

(I) Track circuit indications on the cabin diagram were found to be very poor in the day time. It was found that there was heavy loss of Voltage on the overhead alignment. Power

supply arrangement for the track circuit as well as advance starter signal needed to be improved.

(J) The West cabin wiring needed renewal. Few wires had been changed and the condition of other wires was also not very good.

24.3.4. *Varanasi* : (A) While examining the records of the promotional and refresher courses in S.I. Varanasi's office it was noticed that on the whole 58.3% of the staff was overdue for refresher course.

(B) It was noticed that track circuits were not being tested properly. The railway was required to keep close watch on the maintenance staff to ensure the proper and timely testing of vital circuits.

24.3.5. *Delhi Shahdara* : (A) The panel interlocking at the station was commissioned in Feb. 1969. There was no record in the inspection book, of its subsequent testing.

(B) While testing the emergency release of route the Dn main line points were operated by the emergency release three times and the route release. Time taken was found to be 80 to 90 seconds against the time lag of 120 seconds, stipulated in the Station Working Rules. The Signalling staff were instructed to adjust the timings to comply with the requirement of the Station Working Rules.

24.3.6. *Unnao* : While checking the failure Register it was noticed that tokenless instruments between Unnao-Sonik, introduced on 31-7-74, were failing frequently (four to five times every month). Had the staff paid more attention to the maintenance of the gears at Unnao station itself, the failures could have been reduced. The railway was requested to issue a time schedule for testing and checking of each gear by maintenance staff and also impress upon the inspectors to record in detail the work done by them at the station in the inspection register.

#### 24.4. *Western Railway*

(i) At Turiya, Talavli and Hanspura signalling cable alignment needed to be dressed up. The present cable tied to a messenger wire was found hanging loose at number of places.

(ii) In tokenless territory between Nagda and Kota the main line Starter did not go to 'ON' automatically under the designed condition. On this high speed trunk route on which Rajdhani Express was running it was necessary, all the more that Railway Board's instructions were implemented expeditiously.

#### 24.5. *South Central Railway*

(i) *Chittapur station* : The lock bar of Points No. 25 was slightly bent at the fore end.

(ii) *Shankarapalli station* : The lock bar of Points No. 9 was bent over a portion of its length and 2 fixtures at the fore end of the lock bar of points No. 7 were slack.

(iii) *Belanagar station* : The cabin lever frame was overhauled on 6-9-1974 and tested on 29-11-75. The station diagram and the lever pull chart were too small and placed too high to be visible clearly. There was no lever collar chart.

(iv) In many of the cabins inspected, no lever collar chart had been provided. These may be provided early at all cabins as a visual indication to the Cabinmen.

#### 24.6. *North Eastern Railway*

(i) *Katarniaghata-Gonda Section* : At Minipurwa station, the signal Failures Register showed only 1 or 2 failures per month on an average. These failures were mostly due to block instruments or the line wires going out of order. It was considered that a clear circular laying down the action to be taken by the Station Masters, controller etc., when line wires were being attended to by the P & T men should be issued.

(ii) *Jayanagar-Darbhanga Section* : The S & T failure Register at Jayanagar station was checked. There were only one or two failures every month mainly pertaining to block instruments. The batteries were dusty and full of cobwebs. The voltage of batteries was checked, and was found in order. The earthing arrangements for the lightning conductor (of the Block Instruments) were not satisfactory as the pipe fixed outside the station room was fully choked and the wire had snapped. A proper rectangular masonry pit should be provided round the pipe to protect it from damage.

#### 24.7. *North East Frontier Railway*

(i) *Rangapara-Tezpur Section* : At the stations mentioned below the distance between the Home signal and facing point in MAUQ territory was less than 300 m, and therefore, a Board was provided at a point 300 m. from the facing point warning the Drivers to stop at that point if the Home signal was at Danger. Jorai, Srirampur Assam, Kamakhyaguri, Salakati, Gosaingaon Hut, Pashwashraya, Hamiltonganj and Dalgat. As this arrangement was approved as a temporary measure the work of relocating the Home signals at correct distance should have been planned and executed at an early date.

#### 24.8. *Arrah Sasaram Light Railway*

The spectacle glasses of signals were generally found broken. These required to be replaced and provided with expanded metal protection. The stakes had no pulleys with the result that the signals could be taken off easily.

#### 24.9. *General*

It is considered desirable that registers in respect of inspection and attention to assets such as Points and Crossings, Signals, Lever frames etc., were maintained in the S&T Department as was done in the Civil Engineering Department. At present the information in respect of inspections carried out and action

taken by various inspecting officials of the S&T department was being sent in a statement periodically to the DSTE which was not as satisfactory an arrangement as the Registers mentioned above. Further the registers would be available to any higher inspecting official/authority given a clear picture of the inspections carried out and the action taken.

## E. OPERATION

### 25.1. South Central Railway

(i) *Purli-Bajjnath-Vikarabad Section*: The maximum permissible speed of WP locomotives on the Purli-Bajjnath-Vikarabad section was 50 Km/h and the booked speed of passenger trains hauled by WP locos was also stated to be 50 Km/h. This was not in consonance with extent practice. According to the Working Time Table, the booked speed of Passenger trains was 65 Km/h. which pertained obviously to trains hauled by XA & XB Class locomotives whose maximum permissible speed was 75 Km/h. As passenger trains were mostly hauled by WP or WG locomotives, fresh timings could desirably be worked out based on the correct booked speed and included in the Working Time Table.

(ii) *Kurgunta 'B' Cabin*: The Cabinman on duty did not have the private number Book in this custody and had left it loose on the table. Of the 2 hand signal lamps, one was out of order (stated to be in this condition for one month). On the other lamp, there was no arrangement to retain the red and green glasses in the operated position, with the result that with a slight shake they went back to their original position.

(iii) Incorrect marshalling of SLRs appears to be on the increase. A special drive was required to set matters right, particularly on Metre Gauge sections.

### 25.2. North East Frontier Railway

(i) *New Misamari Station*: 783 Up Through Goods train was inspected in early April 1975. There was no vacuum gauge in the Brakevan and according to the Guard, this was the condition for the last 2/3 years. Out of 40 vacuum cylinders on the train, 9 were ineffective showing 77.5% vacuum on the train as against 80% specified.

(ii) Several instances of wrong marshalling of coaches on the Passenger Trains were noticed. Greater efforts and stronger measures were necessary to stop this malpractice.

### 25.3. Southern Railway

*Quilon Station*: Leverman M. Podian who was absent for more than 16 days had been allowed to resume duty without a fresh declaration having been obtained.

The declaration of Assistant Station Master K. A. Ibrahim who resumed duty on 10-3-75 after a spell of 16 days leave was not taken till 18-4-75.

Cabin Assistant Station Master Gopakumara Thambi who was on leave from 21-2-75 to 14-3-75 was allowed to resume duty on 15-3-75 without obtaining a fresh declaration.

Due to wrong computation of the due date (5-5-75 instead of 5-5-74) shunting Jamadar C. Gopinathan who was due medical examination on 5-5-74 (on reaching the age of 45 years) had not been deputed for the same.

### 25.4. South Central Railway

*Maddikera*: Para 10 (b) of the Station Working Instructions which permitted hand shunting (with certain conditions) was inconsistent with para 9 (d) which prohibited hand shunting altogether and should have been deleted.

### 25.5. Central Railway

391 Up Nagpur-Itarsi passenger was checked at Betul station. The Guard's First Aid Box was in order but the field telephone had, however, not been tested after 16-9-1974. Also the emergency lighting set box had been so sealed that it could not be opened by the Guard and help had to be sought from the station staff to get it opened. It should be possible to make such arrangement as will enable the Guard to open the box without difficulty.

### 25.6. Northern Railway

(i) More attention was necessary to ensure that the doors of wagons remained closed fastened while on the run. The lower doors of the open wagon hanging downwards at an angle from the hinges were particularly dangerous.

(ii) *Jakhel-Guards and Drivers Running Room*: The capacity of the room was 24 beds but the occupation was high being about 52 persons per day. As a result, too many beds had been kept in the bed rooms, resulting in congestion. Some beds were provided in the common room and the Verandah. It was necessary to provide adequate accommodation in the running room.

### 25.7. North East Frontier Railway

*Lumding Jn.*: The Station Working Rules at this station did not have correction slips pasted or cross indexed. The SWR's did not provide for exchange of private numbers between the Gateman and ASM when advice is received from the gateman that the gate had been closed for train movements. According to the S.W.R. of this station the responsibility for ensuring that the running lines were free of obstruction was that of the cabin ASM. The lines 1 & 2 were however, not visible from the cabin due to platform shelter.

### 25.8. North Eastern Railway

(i) *Chilkahar station*: At this station, though the S.W.R. appeared to have been kept up-to-date, a number of correction slips had been pasted on various pages unlike other



stations where the complete pages had been replaced. This had resulted in some mistakes as for example S.W.R. stated that shunting was permitted upto Shunting limit Board whereas, as stated by S.M. and as seen at site, on Shunting limit Boards were provided. This situation required to be remedied early.

(ii) *Gursahaiganj*: It was noticed that waste cotton was kept alongwith kerosene oil in the oil room. This was a dangerous practice. Separate accommodation should have been provided at the station for keeping surplus stationery, waste cotton etc.

(iii) On the N.E. Railway, there was no column in the working table showing the run through speed where speed through station was also less than the sectional speed. It was considered desirable for this to be provided in the working time tables.

#### 25.9. South Eastern Railway

*Palasa*: Line closed collars were put on almost all slides in S.M.'s control except slide for line No. 7 and did not tally with the lines actually occupied, the reason given for this unrealistic exhibition of collars being that this was on the safe side. Such notions of safety should be discouraged. Casual use of collars would ultimately made the station staff complacent and negligent in their duties.

#### 25.10. Eastern Railway

*Jharia*: Assistant Station Master's slide control was provided only on the Starters. Assistant Station Master, Shri S. C. Gangopadhyaya was confused as regards which signals (Starter or Advanced Starters) were controlled by his slides, a confusion which is rather serious. In the Station Working Rules the term 'Starter in Advanced position' has been used and only 'Starter' used in the slide control chart which, although clear, may be the reason for the term 'Advanced Starter' as it will be more easily understood by the station operating staff.

### F. LOCOMOTIVES AND ROLLING STOCKS

#### 26.1. South Central Railway

The number of M.G. wagons overdue POH seemed to be appreciable. It was necessary that such wagons are withdrawn from service and sent for POH urgently.

#### 26.2. North East Frontier Railway

(i) *Chaparmuch Station of Brahmaputra Bridge—Lumding section*: Up NH 24 through goods train with Guard, P. K. Kalita in the Brakevan 34928-WR was inspected. There was no vacuum gauge in the Brakevan nor was there even a handle to press in the vacuum pipe for testing or destroying the vacuum. There were no window panes in the Brakevan and no cover over the commode. The maintenance of the van was unsatisfactory.

(ii) *New Gauhati Station*: The Steam Loco Shed was inspected. The Shed homed 22 locomotives, of which 7 were YF and 15mYD. It

was seen from the Register maintained that Schedules I, II and III were generally done in time but Schedule—IV was delayed by 2 to 3 weeks which was said to be due to shortage of labour. The MOH and IOH were done in the loco Repair shed at Pandu and POH in Dibrugarh Workshop. These major repairs were also said to be delayed anything from 4-6 weeks due to shortage of staff, material etc.

(iii) *Alipurduar station*: The position in respect of the Schedule repairs was similar to what is stated in respect of the Loco Shed at New Gauhati station. The Engine Failure figures from June 1974 to Feb. 1975 indicated that there were about 15 Engine failures per month. The failures were after a run of 15,000 to 25,000 Kms. as against a target of 2,00,000 Kms. The total steam loco failures for the last four years were as under :—

Year	Number of Failures
1970-71	48
1971-72	81
1972-73	79
1973-74	121

For 1974-75, the figure would be more than 121 at the average rate of 15 failures per month. It would thus be seen that the Engine failures are on the increase. It was understood that the increase in the engine failures was partly due to inadequacy of supplies of materials, heavy absenteeism in the shed and also due to bad workmanship. The position in respect of IOH, MOH and POH was similar to that of New Gauhati Loco Shed. This situation required early attention and remedial measures.

#### 26.3. Southern Railway

The rear SYLR (last coach) of train No. 883 'Kottayam-Quilon passenger' was marshalled wrongly with the Guard's van leading instead of shalling of SLRs was difficult on the metre gauge due to the limitation imposed by the existing couplings. It was also mentioned that a relaxation had been given by the Railway Board in this case. As the extant orders on marshalling have their origin in 'safety of travel' the standards of which cannot be relaxed, SLRs on metre gauges may be provided with universal couplers (both hook and yoke in the same manner as locomotive and Inspection Carriages) wherever necessary to enable their being marshalled correctly.

#### 26.4. South Central Railway

*Loco Shed at Dronachellam*: The Medical Examination Register showed the due date for the next medical examination of Driver, Shri M. Ramagopal (date of birth 2-4-1928) as 16-4-76, whereas he should have been examined every year after reaching the age of 45 years. He was last examined on 16-4-73. The correct position required to be checked and necessary action taken. The dates for medical examinations had been wrongly entered for several other cases.



### 26.5. Central Railway

*Ajmi Loco Shed*: No messages for speed restrictions were being received at the Loco Shed and almost all the restrictions were listed on the basis of telephonic communication from the control office. There was likelihood of the restrictions not being up-to-date and inaccurate in details.

### 26.6. Northern Railway

During the inspection on Allahabad-Mughal-sarai section, quite a few wagons were found to be over due POH. It was understood that nearly 40% of wagons are overdue POH due to inadequate capacity in the shops for the maintenance.

### 26.7. Southern Railway

*Khurda Road Loco Shed*: Spectacle register was checked. Eight Drivers were overdue for medical examination. They were either under suspension or on sick list. They should not be asked to work on trains unless they pass the medical examination.

### 26.8. North East Frontier Railway

A goods train which passed Chaparauch towards Lumding at about 13.30 hrs. on 25-2-76 appeared to have a number of wagons overdue POH. It was noted after check that there were 8 wagons overdue POH on this train, one of N.F. Railway and 7 of other Railways. Five wagons were overdue POH for over 6 months and the other three overdue POH from 3 to 6 months. Although a number of wagons had been stencilled to be booked to parent railway for POH either as empty or otherwise, the station staff had loaded these wagons in the opposite directions.

### 26.9. Western Railway

Cases of wrong marshalling of SLRs on the Metre Gauge were observed on this railway also, on account of the difficulties due to the conventional coupling-yet another case indicative of the necessity to provide universal coupling.

## G. ELECTRICAL

### 27.1. Eastern Railway

During field trials of AC/DC proto type locomotive No. 21800 WCAMI, it was noticed that the under-frame plate had developed cracks within an area of approximately 2" around the loading pad. Minor cracks were also noticed in the welding of other side barriers. The cause of damage would have to be investigated and immediate remedial measures taken to ensure safety in service.

### 27.2. Northern Railway

27.2.1. *Lucknow-Shahjahanpur section*: On 30-4-75, during the foot plate inspection it was seen that the train had a late start of 2 hours 35 minutes from Lucknow station. The time of departure was 18.35 hours instead of 16.00 hrs. The driver was issued with a caution order No. 021325. No station stamp was put on the caution order slip and instead it was written 'No STAMP' by hand by Station Master, K. P. Saxena,

time given was 15.30 hrs. In case the Station stamp was missing the Station Master should have written the name of station as Lucknow by hand and made a note that the Station Stamp was not available at the appropriate place provided in the Caution Order Slip.

27.2.2. There had been 9 cases of Alarm Chain pulling between Lucknow and Shahjahanpur. Guard of the train Shri Y. Verma informed that students had managed to get into the train at Lucknow due to late arrival of Punjab Mail and they had been getting down at wayside station by pulling Alarm Chain. This was a law and order problem. Between Dildar Nagar and Rahimabad the train lighting generator belt was cut due to which Coach No. FC 1663 run in darkness. This was attended to at Shahjahanpur. The speedometer of the mail train was not working.

27.2.3. During the inspection of Accident Relief Train on 2-5-75 at Ludhiana station it was seen that the all equipment were available in Medical Van No. 8204. The cutouts should be numbered to show the circuits they were protecting for quick identification and replacement of fuses wires. Portable generating set worked satisfactorily. Only one out of four torch lights was available. Joint inspection by departmental officers had not been done. In the loco shed facility was not available for testing repaired head light and Turbo equipment.

### 27.3. Central Railway

On 24-7-75 at about 21.00 hrs. S-15 down Electric Multiple unit Local was stopped by passengers at Deva Station due to unusual noise under Coach No. 7486. It was found that brake shoe hanger bracket had broken. The brake beam had bent and safety band for brake beam and pull rod had also sheared off. The brake assembly had fallen down on the track. The damage was heavy and it would have been a serious accident had it not been for a timely warning by the passengers. Examination revealed out fracture marks as also fresh ones. It was noticed that during POH the shoe hanger bracket was not taken out from the bogie frame for inspection. This should have been done to avoid components with flaw going back into service.

### 27.4. South Central Railway

Two power cars were under construction to be used for mid-on generation to be attached to Express trains as a trial measure. Two 30 KVA capacity Diesel Engines had been provided on these coaches. These were coupled with rectifier unit to give 24 V DC supply to fan and lighting load to enable them to work the conventional coaches.

Certain defects were observed in workmanship. Main wirings taken from generators to the switch board panel had very sharp ends and these were pressed with a fibre sheet bracket. It was likely that the insulation of these wires would get damaged on the run due to vibration. Suitable cleats clips with holes

matching to conductor diameter should be provided to keep the cables in position.

The side panels used on the coach were of plywood sheets. These should be replaced by metal sheets to avoid fire risk. Some drainage should be provided on the floor near the generating set base plate to drain out oil and water accumulation. Sufficient number of fire extinguishers should be provided on the coach at suitable locations, which can be easily handled by the crew in case of emergency. To switch off supply from a distance, push button should be provided inside the staff cabin room to be used during emergency.

#### H. MEANS FOR DEALING WITH ACCIDENTS

##### 28.1. Southern Railway

(i) *Quilon* : ARME Scale I kept in a bogie coach at Quilon station was inspected. Ampules of Adrenaline Tartrate (injection) were due replacement, as also condensed milk. One stethoscope was unserviceable. A petromax lamp which was tested could not be commissioned easily, so was the case with the kerosene stove. As these were pretty old, they required to be replaced with new stock early.

(ii) *Guddalore Jn.* : First aid box was checked and found complete. This had been checked by the Assistant Medical Officer, Villupuram, on 19-2-76 and the stock replenished. The scissors were, however, rusty. It would be desirable to issue reiterate instructions to all concerned to have the scissors coated with vae-line during their periodical checks.

(iii) *Villupuram* : The Medical Relief Equipment Van was checked and found in order. The auxiliary van, however, did not have either a generator or portable lights. It was essential that these items are provided in all auxiliary Vans urgently.

##### 28.2. South Central Railway

(i) The 'Soda Acid' type fire extinguisher in 225 Up Guntur Guntakal Passenger was found inoperative as the correct size of acid bottle had not been put in. The Emergency Lighting Equipment could not be commissioned in the absence of Kent Couplers or the alternative arrangement stated to have been adopted in lieu thereof.

##### 28.3. North East Frontier Railway

*New Gauhati Station of Brahmaputra Bridge Lumding section* : The Break Down Train was inspected. The Inspection Register showed that inspections were being carried out by AME and DME every three to six months but not by the DEN and DSO as prescribed in the Accident Manual. The Inspectors were required to inspect the Van once every month but the Register of their inspection was not available. The "List of Materials" maintained merely showed that materials were available but did not show the authorised quantities of materials.

##### 28.4. Northern Railway

(i) *Jind Station* : ARME scale 1 Van No.

N.R. 8214 was last given POH on 22-8-69 and was overdue POH.

(ii) *Bareilly Jn.* : The Accident Relief train had been inspected regularly by the DME and DSO but not by DEN, DEE and DSTE. Among the Inspectors, the P.W.I. was not found to be inspecting the train regularly as required. It is necessary that the various officials inspect the Relief Train to ensure that all items of equipment are available for use in an emergency.

(iii) *Sadulpur station* : The safety equipment was checked. As against 5 chains, only 4 were available and 2 were said to be in the 2 cabins. As against 4 sprags, only 3 were available and 2 were said to be in the 2 cabins.

##### 28.5. South Eastern Railway

First-Aid box at Ghatalla and Bankura stations were checked. Both the liquid paraffin bottles were found to be without lable.

*Rahama station* : This station was newly opened in July 1973 and not properly equipped. There was no First Aid box. No list of the hospitals and doctors was exhibited at the station.

##### 28.6. Eastern Railway

On certain sections where a check was made, the staff were not very conversant with the uses of the medicines and equipment provided in the First Aid Boxes. This situation called for early remedial measures.

##### 28.7. North Eastern Railway

(i) *Kashipur* : The Break Down train at Kashipur Loco Shed was inspected. Out of 2 fire Extinguishers, one was out of order. The Inspection Register showed that only the AME and DME were regularly inspecting the Break Down train but not the DEN and DSO, though required to do so.

(ii) *Aurnihar-Chhapra section* : Miniature First Aid Boxes had been supplied to the Engineering gangs, measures a commendable measure. Only a few gangs had these boxes however and the other should be supplied the same early. Proper training would no doubt be given to the Gang Mate for using the First Aid Box.

(iii) *Sonpur* : In the Accident Relief train, chains timber blocks, power lights and generator are all dumped pell mell in one BC. The material lying in this bogie should have been neatly arranged and periodically cleaned.

(iv) *Kharosan Road Station* : There was no list of equipment, in the First Aid Box which were of a make shift type. The triangular bandages provided were dirty. The type of First Aid Box appears to be cumbersome and difficult to use.

##### 28.8. Arrah Sasaram Light Railway

First Aid Box was not available at Garh Nokha and Bikramganj. A list of doctors and hospitals in the vicinity was however, indicated in the Station Working Rules. First Aid Boxes at all stations, except halts, should have been provided.

## CHAPTER V

### GENERAL REMARKS ON SAFETY ASPECTS

#### 29. Welding of Rails

A noteworthy feature in respect of trunk routes was the accelerated progress of welding of rails. This will improve the quality of running and increase the safety margin apart from bringing about substantial economies.

Concomitant with the welding of track, however, is the importance of the added degree of attention and maintenance precautions in respect of such track in order to ensure adequate lateral stability at all times. Awareness of this importance among the staff and supervisors and signs of adequate training have been evident. The Indian Railways will no doubt continue the emphasis on these aspects with vigour.

#### 30. Staff Training and Emergency Procedures

Another noteworthy feature was the functioning of the training institutions set up by the Railways which are making an unseen contribution to the organisational efficiency as also safety in the working of the Railways. Yet when emergencies arise, staff have been often found to falter sometimes even in vital matters.

It may probably be that in the thick of the situation a maze of dos' & donts' sprawling all over the Rule Books, and Manuals come before the employees mind and he clutches one of them which may or may not be the apt one. In such cases segregation and drawing up of Emergency Procedures as applicable to each designation of employees, coupled with the usual training therein and drills may perhaps be of help.

#### 31. Roller Bearings

Following quick and concentrated drive by Railways in the wake of an epidemic of failures to place the inspection and maintenance of Roller Bearings on a more systematic footing, a marked improvement in the attention to details of the condition of Roller Bearings and awareness of the importance were noticeable all round. The drop in the incidence of failures can reasonably be attributed to these measures. An important aspect of the Roller Bearings however is the treacherous nature of the failures when they do take place. Measures to take care of this aspect will have to be evolved. This matter will, no doubt, receive adequate attention of the Railway Board.

#### 32. Correct Marshalling of coaches on Passenger Trains

This is another item where substantial improvement has been noticed.

#### 33. Improvement in P. O. H.

In the matter of periodical overhauling of rolling stock, a heartening feature is the improvement in the arrears of P.O.H. of rolling stock on the Broad Gauge. It is hoped that a similar result will soon be achieved by the Railways in respect of the Metre Gauge rolling stock as well.

#### 34. Rail Flaw Detection

Though the use of ultrasonic rail flaw detectors as a means to practically eliminate accidents due to rail breakage was accepted for introduction on the Indian Railways and there were also recommendations to this effect from the Commission of Railway Safety over 10 years ago, it is a matter for concern that till now many of the main lines remain untested with rail flaw detectors. It is now understood from the Railway Board that by way of addition to the present 41 such detectors available on the Indian Railways, another lot of 41 has been ordered. It is hoped that the Railway Board will follow up the matter and ensure that all lines where speeds in excess of 75 Kmph are permitted will have been tested in the course of the next two years.

#### 35. Condition of Track on the N. F. Railway

Year after year during the accident inquiries it has come to light that condition of track on the N. F. Railway has been unsatisfactory, sufficient to cause anxiety. The Administration has apparently been reluctant to impose speed restrictions. This reluctance, it is felt, is quite on the unsafe side. It is hoped that on the one hand the Railway Board will arrange sufficient material to enable the N. F. Railway to clear the backlog of renewals and on the other the railway administration will prescribe such speeds as well to eliminate derailments attributable to unsatisfactory track condition.

#### 36. Train partings

Train partings of goods trains to known patterns have been observed in the eastern Broad Gauge region particularly the South Eastern Railway and on the Metre Gauge on the N. F. Railway. In the former case this includes a large number of cases of the coupling of the CRT type of wagon being involved and in the latter, due to the breakage of the draw bar. It is hoped that the Railway Board will take vigorous steps to eliminate early the cause of the train parting.

#### 37. Blanking off of Alarm Chains

Consequent upon indiscriminate use of the alarm chains by the passengers on a large scale and the Railways' inability to control the

situation, the alarm chains were blanked off on certain trains in order to restore punctuality. In this step however lies a grave safety hazard to the passengers in the event of emergency such as fires in trains. With the vast improvement that has taken place in the Law & Order situation in the country, the Railway Board were approached to review the position and to restore this vital safety aid in all passenger coaches for use in emergency. The Railway Board have issued necessary instructions to the Railways and it is hoped that the situation will improve soon.

### 38. Train Lighting

Consequent upon large scale thefts of train lighting equipment, the Railways were not able to maintain train lights fully. The absence of lights in some coaches has affected the security of the travelling public at night. Here is another area where the vast improvement in the Law & Order situation in the country, will enable the Railways to restore train lights in the deficient coaches and afford such needed relief to the passengers. Also it has been observed that in the absence of train lighting, passengers are sometimes led to resort to the use of torch flames which are a potential fire hazard. The Commission of Railway Safety would urge the Railway Board to provide train lights in the deficient coaches on a priority basis.

### 39. Deficiencies in Speed Recorders

Cases of defects in or deficiencies of speed recorders on Mail and Express train engines are continuing to occur in spite of the shortcomings having been repeatedly brought to the notice of the Railway Administrations though speed indicators by and large function normally. In fact by now one should have expected this vital equipment to be provided in engines of other than Mail and Express trains as well. Railway Board are again requested to have the matter thoroughly gone into and ensure that the Speed Recorder function, to start with, on all Mail & Express Train engines at least.

### 40. Packing conditions in respect of steel and other consignments which are liable to shift in transit.

Considerable weakness in the present measures has been observed in respect of consignments which are liable to shift in transit which can lead to serious accident. On this issue, Railway has, for quite sometimes, been mentioning that a Committee has been appointed to go into the matter. Considering its seriousness it is felt that the issue needs to be finalised quickly. Along with lying down and enforcing of the appropriate packing condition, it will be necessary to make at least sample checks of such consignments en-route.

### 41. Synchronisation of brakes

The equipment intended to synchronise the air brake on the diesel locomotive with the vacuum brakes of the load, has been often found

to be out of commission on many Railways. This matter requires attention urgently.

### 42. Fires in Electric Multiple Unit Trains in the Bombay area

Over the last 25 years, with the introduction of metal bodied rolling stock for the sub-urban trains in the Bombay area, cases of roof fires caused by short circuits due to crows dropping metal wires, a known feature, have taken place. Measures taken by the Railways to prevent the fires included the provision of improved insulation on the roof, and provision of an insulated false roof. These have not been found effective for the last two decades. The Commission has suggested to the Railway Board that besides investigation and selection of proper types of insulating material, there is the urgent need to shift the location of pantograph itself to a non-passenger portion so that in the event of roof fire taking place, it will not effect the safety of the passengers. It is understood that in respect of all new EMUs, the pantograph will be located in the non-passengers portion of the roof. As regards the EMUs already in service comprising several different makes, production of prototypes on a priority basis has been initiated. It is hoped that this will be progressed more vigorously.

As the shifting of the location of the pantograph would take time, and as in the mean while the passengers stand exposed to the danger of roof fires of this type, it was suggested to the Railway Board that as an interim and immediate measure, a temporary cover of any known insulating material even though not of a lasting nature, be provided in the pantograph area. It does seem that the Railway Administration should be in a position to save the passengers from the danger of roof fires of this type.

### 43. Speed of trains in the Automatic Block territory which proceed after stopping at a signal at 'ON'

A perusal of the causes of collision shows that among some of the common types is the one wherein the Driver was allowed to proceed cautiously and to be prepared to stop short of any obstruction and he misjudged the speed and the situation, resulting in collision with the obstruction ahead, such default being usually confined to night time. For example in Automatic Block territory the Driver after stopping for the requisite duration at a signal showing the 'ON' aspect, is allowed, in terms of the Rules, in force, to proceed cautiously as mentioned above. So long as visibility is not affected the discretion of speed is left to him. For such situation, in view of the incidence of accidents the Commission of Railway Safety has suggested that at night time a speed restriction should be imposed. Co-incidentally it is seen lately that Railways in foreign countries—e.g. U. S. A.—are also confronted with a similar problem and there has been thinking even to the effect that in

Automatic Block Territory no movement past a Signal at 'ON' should be allowed through such a step apparently may be too drastic and may not be necessary in the condition in India.

Railway Board's views in the matter are reproduced at Annexure II.

#### 44. Cattle Tresspass

Incidents of cattle run-over on the Indian Railways are quite numerous. Fortunately accidents on this account have been few and not very serious. Nevertheless the potential for serious accidents inherent in the cattle tress-pass particularly with the increase in speeds and in the number of fast trains is a matter for concern. The solution to the problem is of course not a simple one but that does not justify shelving the issue. It is felt that evolving of measures to eliminate this menace should be initiated as early as possible, knowing fully well that results may not come off quickly.

#### 45. Flats on wheels of Box Wagons

The incidence of flats on the wheels of BOX Wagons has been observed to be noticeably high. Though each of the flats may be within the permissible limits, the extensive nature of the incidence was probably not the one considered while laying down the limit. The flats naturally affect the track condition. As they are caused by improper setting of the "empty-load box" for the empty condition, measures to eliminate them

are fairly simple. Railway Board will no doubt give suitable direction to Railways.

#### 46. Emphasis on safety liable to be eclipsed by other topics of the day & drives.

In order to bring about improvement in the several facets of working—for example punctuality—which are very laudable, close watch and drives are often instituted by Railways; alongwith a heavy hand coming down on the defaulters. For fear of punishment, staff sometimes show a tendency to give greater priority to these items, over Safety or to resort to short cut methods endangering safety. In such cases while carrying out drives for improvement in other facets of working, it would appear necessary to take care and see that emphasis on the safety aspect is maintained at all times.

#### 47. Inquiries carried out by the Railways in Accidents under Section 83.

Studies by the officers of the Commission of proceedings of Inquiries conducted by Railways show that in some cases there was a tendency to finalise the proceedings perhaps mainly with an eye on the target date, with the result that proper investigations and conclusions were at a discount. The Additional Commissioners of Railway Safety have been pointing out the shortcoming in the individual cases. None the less Railways may perhaps like to see what they can do to set matters right.

LUCKNOW ;

Dated 29th March, 1977.



Sd./-

(D. G. DIVGI)

Commissioner of Railway Safety.



सत्यमेव जयते

## RAILWAY BOARD'S VIEWS ON PARA 10(a), CHAPTER II OF THE REPORT

With regard to abolition of ACRS's periodical inspections of Government Railways in terms of Boards letter No. 52/W/80/55 dated 16-7-53, which according to the CRS is not in conformity with the Section 4(2)(b) of the Indian Railways Act, it may be mentioned that before issuing the said instructions, the matter was considered at the highest level in consultation with the Ministry of Communications, CGIR (Now CRS) and the Ministry of Law, and it had the approval of the Minister. It was explained to the Secretary, Ministry of Communications as early as in 1954 that the annual routine inspections, which were previously being carried out in pursuance of the directions, issued under Section 4(2)(b) of the Indian Railways Act, would not be deemed to be a statutory obligation cast on the officers of the Commission of Railway Safety, after the issue of the instructions dated 16-7-53. The duties prescribed for the ACRSs under Section 4(2)(b) of the Act cover such periodical or other inspections as the Central Government may direct. Since the Central Government had directed that the annual routine inspections should be discontinued, it was, therefore, not correct to assure that the said inspections were still the statutory obligations which the officers of the Commission had to carry out. It was also explained that the import of the revised instructions was not to stop the inspections altogether and such inspections, as were deemed necessary, could still be held at the discretion of Additional Commissioners of Railway Safety. It was left open to the ACRSs to carry out such inspections of Railway, or a section of a railway, or to make ad-hoc visit to any section of railway to study any particular aspect of railway working with which they may desire to make themselves familiar.

Extant instructions also provided that the ACRSs could make use of facilities available during the

annual inspection programmes of the General Managers. Instructions were also issued in 1963 that as far as possible the General Managers programmes of annual inspections should be drawn up about 10 to 15 days ahead of the tour so that ACRSs can find it convenient to accompany and wherever possible General Managers/COPSs may consult the ACRS before finalising the inspection programmes. These instructions were reiterated in 1972 also. In September 1974, Chairman, Railway Board had written to the General Managers that they should invariably consult the ACRSs before finalising their inspection programmes and that the inspection programmes should be drawn up sufficiently in advance of the tour. It was further advised that COPS/Chief Engineers should invariably consult the ACRS concerned so that he gets a fair opportunity to accompany the inspection tour. If there is any change in the programme, which normally should not be, the ACRS should be advised immediately, so that no inconvenience is caused to him and he can re-adjust his programme. Further, if an ACRS suggests any alteration, efforts should be made to accommodate that change. The matter was also discussed at the meeting held between the Commissioner of Railway Safety with the Chairman and Member (Mechanical), Railway Board on 29-4-1975, wherein it was pointed out that there had been no complaint from the ACRSs after the issue of the instructions by the Chairman in 1974. It was also explained by the Chairman, Railway Board that during the last 6 months, 28 inspections were carried out and ACRS concerned accompanied 21 of them. In the remaining 7 cases also, the concerned ACRS could not accompany because either he was on leave or had some prior engagement. No change in the extant instructions is, therefore, warranted.



## RAILWAY BOARD'S VIEWS ON PARA 43, CHAPTER V OF THE REPORT.

It has been suggested that since the collision in Automatic Block territories largely occur during night time, General Rules should stipulate speed restriction when a train has to pass an Automatic Stop signal at 'on'. In this connection, attention of the Commission of Railway Safety is invited to the Additional recommendation made by the Commissioner of Railway Safety in his Note No. RS.21-T(2)/74 dated 22-10-74 on the collision of 6 DG Delhi-Ghaziabad Shuttle with stationary, 14 Down Delhi-Sealdah Express between Delhi Shahdara and Sahibabad stations of Northern Railway on 12-2-74. This issue was informally discussed with the then Commissioner of Railway Safety after which a detailed note was sent to the Commission of Railway Safety vide this Ministry's Office Memorandum No. 74/Safety (A&R)/1/1 dated 10-11-75, bringing out the importance of General Rule 277(2) which reads as under :—

"Where owing to the curvature of the line, fog, dust storm, engine working the train pushing it, or other causes, the line ahead cannot be seen clearly, the Driver shall proceed at a very slow speed, which shall under no circumstances exceed 8 kilometres per hour. The Driver, if he considers necessary, may seek the assistance of the Guard by giving the prescribed code of whistle."

It was brought out that the General Rule emphasises on the contingency when the line ahead cannot be seen clearly, which can happen due to various circumstances like curve, fog, dust storm, engine working the train pushing it, or any other cause; which can happen

both during day or night. Obviously this does not cover the circumstances when the view ahead is clear on a bright moonlit night or when there is good illumination in sub-urban areas. If during day or night, the visibility is impaired due to any of the circumstances mentioned in the existing General Rule quoted above, and the driver finds it difficult to see the line ahead clearly, he is required to restrict the speed of his train to a maximum of 8 kmph. It was, therefore, considered that the provisions of General Rules 277 and 279 provide adequate safeguards when a driver is not able to see the line ahead clearly.

In view of the position explained by this office, the Commissioner of Railway Safety agreed to drop the recommendation vide his letter No. RS.21-T(2)/74 dated 20-3-1976. It is once again reiterated that when the driver has to pass an Automatic Stop Signal at 'on', he has to stop for one minute by day and two minutes by night and has to restrict his speed to 8 km.p.h. when the line ahead cannot be seen clearly for any reason whatsoever both during day or night as stated above.

During 1976, there have been only two rear-end collisions in automatic signalling territories—one near Dashnagar Halt on S.E. Railway on 8-2-1976, which happened in dense fog when the speed was already restricted to 8 km.p.h. and the other near Vikhroli station on Central Railway on 24-5-1976, due to the carelessness of the driver of the wiring train not stopping at all at the Automatic Stop Signal, and with such gross carelessness accidents cannot be averted. Both these cases are of human failure which could not be averted by any provisions of rules.





# APPENDIX A

## LIST OF NEW RAILWAY LINES, DOUBLINGS, DIVERSIONS ETC.-AUTHORISED DURING 1975-76

Kilometres		Kilometres	
(a) <i>New Lines</i>			
(1) Between Dulda and Bundi Road Stations, Western Railway (B.G.) on 10-4-1975 . . . . .	7.84	(6) Between Erode and Utukali Stations, Southern Railway (B.G.) on 30-10-1975 . . . . .	36.72
(2) Between Krishnagiri Narrow Gauge Railway constructed in the National Park, Borivli, Bombay on 26-4-1975 . . . . .	2.14	(7) Between Tatisilwai and Gangaghat, South Eastern Railway (B.G.) on 27-12-1975 . . . . .	7.810
(3) Between Delhi Saf Jarjang to its Junction with Delhi Cantt. line, Northern Railway (B.G.) on 1-10-1975 . . . . .	9.62	(8) Between Kovvur and Rajahmundry (including the new bridges across Godavari), South Central Railway (B.G.) on 15-1-1976 . . . . .	7.15
(4) Between Chandlodiya and Gandhinagar Capital Stations, Western Railway (B.G.) on 20-1-1976 . . . . .	22.98	(9) Between Loni and Hadapsar Stations South Central Railway (B.G.) on 10-2-1976 . . . . .	10.71
(5) Between Dalmau to Daryapur Stations, Northern Railway on 24-2-1976 . . . . .	24.783	(10) Between Sear and Bharatpur Stations, (Kota Division), Western Railway (B.G.) on 5-2-1976 . . . . .	9.68
(6) Between New Katni Junction to Beohari Stations, Central Railway (B.G.) on 24-3-1976 . . . . .	106.00	(11) Between Damoh and Bandakpur Stations (Jabalpur Division), Central Railway (B.G.) on 23-3-1976 . . . . .	14.94
(b) <i>Doublings</i>		(12) Between Khurai and Sumreri Stations (Jabalpur Division), Central Railway (B.G.) on 23-3-1976 . . . . .	8.64
(1) Between Aslana-Damoh Stations, Central Railway (B.G.) on 1-4-1975 . . . . .	12.77	(c) <i>Diversions</i>	
(2) Between (i) Pilol-Samlaya, (ii) Champarn Road-Drol, and (iii) Drol-Kharsaliya Stations, Western Railway (B.G.) on 24-4-1975 . . . . .	37.46	(1) Between Rae Bareli to Rupamau Stations, Northern Railway (B.G.) on 15-11-1975 . . . . .	4.10
(3) Between Dhaurmui Jakhina and Jajantpatti (Kota-Mathura Section), Western Railway (B.G.) on 9-3-1975 . . . . .	7.91	(d) <i>Conversions</i>	
(4) Between Sank Bridge and Banmor Stations (Jhansi Division), Central Railway (B.G.) on 23-9-1975 . . . . .	7.711	(1) Between Ernakulam-Quilon Section, Southern Railway (B.G.) on 19-11-1975 . . . . .	155.67
(5) Between Rajhura and Kajari Stations, Eastern Railway (B.G.) on 3-9-1975 . . . . .	7.32	(e) <i>Restorations</i>	
		(1) Between Pratap Ganj and Farbesganj, North Eastern Railway (M.G.) on 11-6-1975 . . . . .	36.25



# APPENDIX B

## LIST OF ACCIDENTS INQUIRED INTO BY OFFICERS OF THE COMMISSION OF RAILWAY SAFETY DURING 1975-76

(K—Killed)

(I—Injured)

Sl. No.	Brief description of the accident	Casualties		Damage in Rupees to rly. assets	Cause
		K	I		
1	2	3	4	5	6
1	Collision between light engine No. 12452 CWD and passenger bus No. UPM 4899 at manned L-Xing between Muazzampur Marain and Basi Kiratpur Stations, Northern Railway on 9-4-1975.	1	7 (all bus passengers)	300	Failure of gateman.
2	Collision between No. 104 Up Passenger and Jhund-Kandla 2 Dn. Special Goods at Vasad Junction of Western Railway on 20-4-1975.	Nil	25	1,10,000	JK 2 Dn. Spl. Goods having been driven past the Starter Signal at high speed when its lights were extinguished.
3	Side Collision of M 203 Up Howrah Burdwan Local Train and loaded truck No. BRW 7433 at the Manned and inter-locked L-Xing No. 13(A) at Km. 45/15-17 near Magra Station on Bandel-Burdwan main line section, Eastern Railway on 29-4-1975.	Nil	7	675	Failure of truck driver.
4	Derailment of 2 Dn. A.T. Mail between Thanabihpur-Kharik Stations on 6-5-1975.	Nil	4	1,40,000	Tampering of track by unknown persons.
5	Collision of train engine No. 20324 WAM-2 against the rake of 367 Up Lalgola Passenger on platform line No. 5 at Sealdah Main Station, Eastern Railway on 10-5-1975.	4	16	1,90,700	Failure of Engine Turner.
6	Derailment of No. 208 Down Miraj-Bangalore City-Karnataka Express between Magarangala and Birur Stations, Southern Railway on 14-5-1975.	2	8	1,23,240	Unauthorised interference of track by unknown persons.
7	Collision between 3 AB Up Aligarh-Bareilly Passenger and stationary Dn. Bareilly Agra Passenger train at Dhanari Station, Northern Railway on 18-6-1975.	Nil	17	960	Signals for 3 AB being taken 'OFF' for its reception on the line on which 356 Dn. was standing.
8	Collision of Truck No. MPG 4148 with 659 Dn. Mixed Train at unmanned L-Xing No. 18-C, on the Gwalior-Bhind M.G. Section, Central Railway on 29-6-1975.	Nil	11	Nil	Carelessness of Truck Driver.
9	Collision of 6 Up Punjab Mail with Up Diesel Special Goods at Khirkiya Station, Central Railway on 11-7-1975.	Nil	12	19,000	Signals being thrown back to normal in the face of approaching 6 Up Mail and setting the route for the occupied line.
10	Collision between 37 Up Janta Express and a bus at 'B' Class manned L-Xing between Mancheshwar and Bhubaneshwar Stations on 29-7-1975.	Train- Nil Bus—2	Nil 2	1,875	Bus having stalled on the L-Xing across the Up track in the face of the approaching train.
11	Collision between 63 Up Asansol-Ranchi-Hatia Passenger and Multi Diesel Light Engine No. 18283 and 18384 between Pundag and Radhagaon Stations, South Western Railway on 12-8-1975.	4	25	3,85,000	Multi Diesel light engine having entered the section without proper authority to proceed disregarding Departure Signals.
12	Collision of 88 Up Vijayawada Tirupati East Tirumala Express with the rake of Goods Train at Talamanchi Stn., South Central Railway on 15-8-1975.	1	1	Nil	Due to up facing points having remained set for the loop line resulting in the Express train entering that line which was occupied by the Goods Train.
13	Collision of C 247 Up Howrah-Burdwan local train and loaded truck No. WBQ 4269 at the cattle crossing No. near Belanagar Cabin on the Howrah Burdwan chord line, Eastern Railway on 18-9-1975.	1	3	95,068	Failure of truck driver.

(K—Killed)

## APPENDIX—B (Contd.)

(I—Injured)

Sl. No.	Brief description of the accident	Casualties		Damage in Rupees to rly. assets	Cause
		K	I		
1	2	3	4	5	6
14	Derailment of 176 Dn. Mixed train between Dhanji and Gogamukh Stations, Northeast Frontier Railway on 20-9-1975.	Nil	2	1,20,275	Could not be established beyond doubt. The most probable cause was the poor condition of the track and high maximum speed on such a track.
15	Fire on leading coach No. 7606 (Motor Coach) of A-41 Dn. Local Train between Kalyan and Vithalwadi Stations, Central Railway on 29-9-1975.	5	3	4,000	Electric short circuit caused by an external object such as a stray piece of wire on the roof.
16	Collision of Up Diesel Light Engine No. YDM 46306 with Private Motor Truck No. DHG 3926 at manned L-Xing between Rewari and Bawal Stations, Western Railway on 8-10-1975.	3	3	1,525	Failure of Gateman.
17	Fire in Motor Coach No. 206 B of No. 274 Up Borivli-Churchgate suburban train between Elphinstone Road and Lower Parel Stations of Western Railway on 18-10-1975.	Nil	Nil	3,00,000	Due to short circuit in L.T. wiring bunch below the traction motor overload relay panel.
18	Collision of 772 of Up Goods Train with Private bus No. MPQ 3111 at Level Crossing No. 1128 between Katni-Murwara and Haruda Stations, Central Railway on 27-10-1975.	Train— Nil Bus—1	Nil  6	120	Gates of the L-Xing having been opened for the bus to cross in the face of the approaching train.
19	Collision between 311 Up Sealdah-Muzaffarpur Fast Passenger and C 254 Down Butdwan-Howrah local trains at Saktigarh Station, Eastern Railway on 4-11-1975.	Nil	31	2,21,065	Due to the driver of 311 Up having entered Saktigarh Station against the Up main line Home Signal which was indicating 'Danger' aspect.
20	Casualties among passengers of T-49 Dn. Bombay-VT. Thana Local Train between Mulund and Thana Stations, Central Railway on 17-11-1975.	Nil	5	Nil	Passengers were hit by abnormal sized channels loaded in the passenger compartment.
21	Derailment of No. 20 Up Dehra Dun Express at Virar Station, Western Railway, on 26-11-1975.	3	12	4,48,970	Fracture of left journal of the leading axle as a result of seizure of the SKF make roller bearing.
22	Collision of 39 Dn. Express with derailed wagon of Q-30 Up Goods Train between Katipurna-Murtajapur Stations, Central Railway on 11-12-1975.	Nil	10	2,16,000	39 Dn running into the obstruction caused by derailed wagon and its spilled over consignment of steel sheets fouling the Down Track.
23	Collision between stationary Dn. Electric Shalimar Special Goods and Staff Pilot at Padmapukur goods yard on Kharagpur Division of South Eastern Railway on 20-12-1975.	Nil	11	3,710	Staff Pilot was received on a line already occupied by the Goods Train rake.
24	Derailment of No. 20 Up 'Cochin Harbour Terminus-Madras Central Mail between Mukundarayapuram and Walajah Road Junction Stations, Southern Railway on 6-1-1976.	Nil	2	70,392	Rail fracture.
25	Derailment of 35 Dn. Goods train over the snag dead end taking off from the Dn. Main line at Panch Piplia station, Western Railway on 27-1-1976.	1	1	9,000	Train having been driven past the down Main Starter Signal at danger.
26	Collision of 226 Dn. with Motor truck No. USB 7414 at unmanned L-Xing between Gorakhpur Cantt. and Unaula Stations, North Eastern Railway on 28-1-1976.	Train—1 Truck—1	1 1	2,000	Rash and negligent driving by the truck driver.
27	Collision of 84 Dn. Hatia-Ranchi-Howrah Express Train with the rear of P/4 Down EMU Local at Dashnagar Halt between Santragachi and Tikiapara Stations on 8-2-1976.	Nil	11	870	Failure of the Driver of 84 Down Express.
28	Fire on leading Coach No. 7010 (Motor Coach) of T-84 Up Thana-Bombay-VT Local Train between Sion and Matunga Stations, Central Railway on 12-2-1976.	24	39	39,000	Ignition of an inflammable liquid being carried by some passenger.

(K—Killed)

## APPENDIX—B. (Contd.)

(I—Injured)

Sl. No.	Brief description of the accident	Casualties		Damage in Rupees to rly. assets	Cause
		K	I		
1	2	3	4	5	6
29	Fire in Coach No. 646 A of No. 433 Dn. Local Train at Jogeshwari Station on the Churchgate Virar suburban section, Western Railway on 7-3-1976.	Nil	Nil	4,00,000	One of the seats in the intermediate Ist Class Compartment of the Coach being kindled by an extraneous heat source, such as a lighted match stick either applied to it deliberately or thrown on it in utter carelessness by some passengers.
30	Derailment of Coach No. CR 5135 WGS of 110 Up Lucknow Banda Express while entering platform line at Banda Station of Jhansi Division, Central Railway on 23-3-1976.	Nil	4	7,750	Due to a defect in the bogie.
Total		54	271*	29,02,495	

\*Excludes 257 cases of trivial injuries.

*Serious accidents whose enquiry was entrusted to the Railway Administration :*

1. Casualties to persons travelling on footboard of 399 Up while leaving Danapur Station, Eastern Railway on 11-5-1975.
2. Parting of Ballast train between Nayandshalli and Bangalore City Stations, Southern Railway on 16-5-1975.



APPENDIX C

SYNOPSIS OF A FEW ACCIDENTS REPORTABLE UNDER SEC. 83 OF THE INDIAN RAILWAYS ACT IN TO WHICH DEPARTMENTAL INQUIRIES WERE HELD BY COMMITTEES OF RAILWAY OFFICERS IN THE YEAR 1975-76

(K—Killed)			(I—Injured)			
Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly. assets	Important Recommendations
			K	I		
1	2	3	4	5	6	7
					Rs.	
1.	Northeast Frontier	(a) 2-4-1975 (b) Down Tank Special goods Train (c) Madarihat stations (d) Derailment (e) Obstruction by a brake block.	..	1	..	..
2.	South Eastern	(a) 5-4-1975 (b) KKC Pilot (c) Between Gomoh-Bhojudih stns. (d) Collision at unmanned L-Xing with a truck. (e) Failure of truck Driver.	..	9	3,000	..
3.	Northeast Frontier	(a) 8-4-1975 (b) Light Engine (c) Between Gayabari and Tindhari stns. (d) Collision at unmanned L-Xing with a Motor Tanker. (e) Negligence of Motor Tanker Driver.	2 (Rly. staff)	1 (Driver of Tanker)	..	..
4.	Eastern	(a) 9-4-1975 (b) E.C. 2 Dn. Goods (c) Between Kudra and Khurmabad stations. (d) Collision with a Material trolley (e) Due to inadequate protection of the trolley.	..	..	1,03,000	..
5.	South Central	(a) 11-4-1975 (b) GIT 20 Up Diesel Goods (c) Between Nandre and Bhilavadi stations (d) Collision at unmanned L-Xing with a Private Truck. (e) Negligence of the Truck Driver.	1 (all occupants of the truck)	1	1,000	The level crossing No. 119 on Pune-Miraj Section should be manned.
6.	Northern	(a) 12-4-1975 (b) 20 Dn. Mail (c) Between Deoband Teleppari Buzurg stations. (d) Collision at L-Xing with a truck (e) Negligence of the Truck Driver.	5	9	550	..
7.	South Eastern	(a) 14-4-1975 (b) Up BIA Dolo Goods (c) Nipania station (d) Derailment (e) Failure of mechanical equipment.	..	..	1,10,000	..

(K—Killed)		APPENDIX—C (Contd)			(I—Injured)	
Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly. assets	Important Recommendations
			K	I		
1	2	3	4	5	6	7
					Rs.	
8.	South Eastern	(a) 19-4-1975 (b) 35 Dn. Passenger (c) Between Karkeli and Nowarabad (d) Collision at unmanned L-Xing with a motor truck. (e) Failure of Truck Driver.	2	1	1,350	..
9.	Southern	(a) 20-4-1975 (b) 174 Up Dindigul Olavakkota passenger (c) Between Udumalai pattai & Puankinar stations. (d) Derailment (e) Obstruction to the wheel caused by the brake beam and the brake hanger.	..	..	1,510	Cotter be back welded to the washer so that the cotter will remain in position always.
10.	North Eastern	(a) 28-4-1975 (b) Up Shunting Goods Train (c) Between Gainsari and Tulsipur Stations. (d) Collision at unmanned L-Xing with a Tractor. (e) Tractor Driver's rashness.	..	1 (Other)	..	..
11.	South Eastern	(a) 28-4-1975 (b) Dn. Asstt. Engine No. 18385 WDM-2 (c) Between Shivalingaturam and Tyada stns. (d) Collision with a Push Trolley (e) Carelessness of the engine Driver and push trolley operators.	4	6 (Railway Staff)	..	..
12.	South Central	(a) 30-4-1975 (b) No. 552 Dn. Secunderabad Kurnool Town Passenger. (c) Between Balanagar and Gollapalli (d) Collision at unmanned L-Xing with a Truck. (e) Negligence of Military Personnel.	6	3 (All Military Personnel in the Truck)	300	..
13.	South Eastern	(a) 8-5-1975 (b) Dn. Nimpura Goods (c) Chatrapur station (d) Derailment (e) Failure of the Engine Driver.	..	..	2,13,500	..
14.	Southern	(a) 9-5-1975 (b) No. 104 Tuticorin Tiruchirappalli Up Express. (c) Pasumalai station (d) Collision at unmanned L-Xing with a Lorry. (e) Carelessness of the Lorry Driver.	..	1 (Lorry Driver)	1,700	Manning of the crossing & provision of telephone communication with Pasumalai station.
15.	Western	(a) 14-5-1975 (b) Light Engine No. WG 10191 (c) Between Kaladevi and Bayana stations (d) Collision at manned Engineering L-Xing with a Truck. (e) Truck Driver's failure.	1 (other)	4 (others and 1 Railway servant)	..	..

(K—Killed)		APPENDIX—C (Contd.)			(I—Injured)	
Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly. assets	Important Recommendations
			K	I		
1	2	3	4	5	6	7
16.	South Central	(a) 19-5-1975 (b) No. 13 Dn. Bombay-Madras Express (c) Between Patas and Daund stns. (d) Collision at unmanned L-Xing with a Motor Truck. (e) Negligence of Motor Truck Driver.	61 (17 occupants of the Motor Truck and 3 Engine Crew)	20	1,000	Existing visibility should be improved by clearing soil dumps near the level crossing.
17.	Northeast Frontier	(a) 20-5-1975 (b) 15 Up G.L. Exp. (c) Salsalbari station (d) Derailment (e) Breakage of Journal.	..	2	..	..
18.	South Central	(a) 20-5-1975 (b) No. 560 Up Mixed Train (c) Between Madgaon Road & Himayatnagar. (d) Derailment (e) Due to failure of Train Examining staff.	..	..	2,400	The entire tract between Mudkhid and Alilabad should be stone ballasted.
19.	North Eastern	(a) 24-5-1975 (b) 347 Up Passenger (c) Between Kanki and Kishanganj stations. (d) Collision at an unmanned L-Xing with a Motor Truck. (e) Negligence of the Truck Driver.	2 (others)	2 (others)	..	..
20.	Northeast Frontier	(a) 24-5-1975 (b) 797 Dn. Goods (c) Between Gohpur and Helem stations (d) Collision at an unmanned L-Xing with a Tractor. (e) Negligence of Tractor Driver.	..	1 (Driver of the Tractor)	..	..
21.	Northeast Frontier	(a) 24-5-1975 (b) 219 Up Passenger (c) Between Pipraich and Unaula stations (d) Collision at an unmanned L-Xing with a Motor Truck. (e) Negligence of Truck Driver.	1 (Others)	2	..	..
22.	Central	(a) 24-5-1975 (b) No. 405 Dn. Karjat-Khopoli Passenger (c) Khopoli station (d) Collision with the engine of a shunting load. (e) Failure of the Driver of the Train.	..	3	11,000	..
23.	Central	(a) 26-5-1975 (b) No. 536 Up Kanpur-Jhansi Passenger (c) Between Orai and Ait stations (d) Collision at an unmanned engineering L-Xing with a Tractor. (e) Failure of the Tractor Driver.	1 (Tractor Driver)	..	..	..

(K—Killed)

## APPENDIX—C (Contd.)

(I—Injured)

Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly. assets	Important Recommendations
			K	I		
1	2	3	4	5	6	7
					Rs.	
24	South Eastern	(a) 28-5-1975 (b) No. 10524 of P/13 Howrah-Panshkura EMU Local. (c) Deulti station (d) Fire (e) Electric fault due to deterioration of insulation.	..	..	3,00,000	..
25	South Eastern	(a) 2-6-1975 (b) Up DD-301 Goods (c) Between Charmulukusumi & Dhanapur stations. (d) Derailment (e) Sinkage of track.	..	..	1,00,000	..
26	Northeast Frontier	(a) 6-6-1975 (b) 253 Up Passenger (c) Between Mahapur and Aunrihar Jn. stations. (d) Collision at an Unmanned L-Xing with a Truck. (e) Failure of Truck Driver.	9 (others)	8	..	..
27	Northern	(a) 10-6-1975 (b) 2 VL Passenger (c) Savapuri station (d) Fire in Bogie KGSR 2039 and SLR No. 9697. (e) Due to carelessness of Passengers.	..	..	81,513	..
28	South Central	(a) 15-6-1975 (b) No. 84 Up Maharashtra Express (c) Between Satara Road and Koregaon Truck stations. (d) Collision at a unmanned L-Xing with a Truck. (e) Failure of the Truck Driver.	20 (All travelling in the)	45	100	..
29	Southern	(a) 19-6-1975 (b) No. 23 Down Madras Bangalore City Express. (c) Kamasamudra station (d) Derailment (e) Failure of Train Driver.	..	27	4,312	..
30	Northern	(a) 21-6-1975 (b) 37 Up Mail (c) Between Kartar-Singhwala and Bhatinda stations (d) Collision at manned Level crossing with a Truck. (e) Failure of Gateman and carelessness of Truck Driver.	3	..	800	..
31	Northern	(a) 23-6-1975 (b) 19 EM Mixed Train (c) L-Xing No. C 341 Jodhpur Division (d) Collision at unmanned L-Xing with a Military Truck. (e) Failure of Truck Driver.	2	4	60	..



(K—Killed)

## APPENDIX—C (Contd.)

(I—Injured)

Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly. assets	Important Recommendations
			K	I		
1	2	3	4	5	6	7
					Rs.	
32	Northern	(a) 25-6-1975 (b) Panki Pilot No. 9154 WG (c) Panki Station (d) Collision at Unmanned L-Xing with a Bus. (e) Failure of the Bus Driver.	4	14	..	..
33	Western	(a) 1-7-1975 (b) No. 253 up passenger  (c) Between Balawati and Sanganer (d) Collision at unmanned L-Xing with a Tractor  (e) Failure of the Tractor Driver.	1 (Others)	1	..	(i) State Govt. should be requested to give Publicity to L-Xing safety measure (ii) It should also be requested to provide bumps at the Xings.
34	Notheast Frontier	(a) 2-7-1975 (b) No. 173 up passenger (c) Between Majbat and Hugrajauli stations (d) Brushing against Motor Truck at an Unmanned L-Xing (e) Failure of Truck Driver.	3 (Passengers)	..	..	..
35	Northeast Frontier	(a) 3-7-1975 (b) 3 up Assam Mail (c) Between Chalkhowa and Dibrugarh town (d) Collision with a Motor Truck at a manned L-Xing (e) Negligence of the Truck Driver.	1 (Occupants of the Motor Truck)	3	..	..
36	Western	(a) 8-7-1975 (b) 688 Up Goods (c) Between Anklar and Vased stations (d) Collision at an Unmanned L-Xing with a Truck (e) Failure of Truck Driver.	5 (Others)	7	..	..
37	South Eastern	(a) 12-7-1975 (b) Dn. M/E Barajamda pilot Train (c) Between Barajamda and Noamundi stns. (d) Derailment (e) Failure of Driver.	..	..	Rs. 10,10,000	..
38	Western	(a) 13-7-1975 (b) No. 111 Dn. passenger (c) Bhopal station (d) Collision with rear brake van of 823/827 Down Goods Train (e) Failure of Railway Staff.	..	1 (Railway staff)	Rs. 8,300	..
39	South Eastern	(a) 29-7-1975 (b) 37 Up Express (c) Between Mancheswar and Bhubaneswar (d) Collision at 'B' Class Manned L-Xing with a Bus. (e) Failure of Bus Driver.	2	2	Rs. 1,875	..

(K—Killed)

## APPENDIX—C (Contd.)

(I—Injured)

Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly. assets	Important Recommendations
			K	I		
1	2	3	4	5	6	7
40.	Northern	(a) 1-8-1975 (b) F 26 Down (c) Between Nawashar Doaba and Garh Shankar stations (d) Collision at L-Xing with a Tracor Trolly (e) Failure of the Tractor Driver.	7	7	..	..
41.	Northern	(a) 19-8-1975 (b) 6 JF Passenger (c) Between Firozepur and Khas (d) Collision at L-Xing with a Tractor (e) Negligence of Tractor Driver.	1	1	100	..
42.	Southern	(a) 20-8-1975 (b) No. 208 Up Karaikkudi Tiruchirappalli passenger (c) Between Kirunur and Tondaimanallur stations (d) Collision at unmanned L-Xing with a Lorry thereby causing derailment of the Train. (e) Failure of the Lorry Driver.	..	6	800	..
43.	Western	(a) 23-8-1975 (b) No. 22 Down Ahmedabad-Bhavnagar City Mail (c) Ahmedabad station (d) Side Collision with a Shunting engine (e) Failure of Railway Staff.	..	..	19,000	..
44.	South Eastern	(a) 24-8-1975 (b) Up KMZ Special Goods Train (c) Between Sahdol and Badhwabra stations (d) Derailment (e) Due to combined defects in track and wagon.	..	..	1,90,171	..
45.	Western	(a) 27-8-1975 (b) No. 86 Down Passenger train (Railway servant.) (c) Between Kharwachanda and Umra stations. (d) Derailment (e) Sudden falling of a rock from a cutting.	1	2	36,000	..
46.	Northeast Frontier	(a) 2-9-1975 (b) 38 Up passenger (Railway servants) (c) Forbesganj and Simra stations (d) Collision with a motor Tanker at an unmanned L-Xing (e) Failure of the Tanker Driver.	1	3	..	..
47.	Northern	(a) 2-9-1975 (b) 2 UH Mixed Train (c) Between Dhausu & Hissai stations (d) Collision a L-Xing with a Truck (e) Negligence of the Truck Driver.	1	3	1,446	..

## APPENDIX-C (Contd.)

Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Ryl. assets.	Important Recommendation
			K	I		
1	2	3	4	5	6	7
					Rs.	
48.	Northeast Frontier	(a) 4-9-1975 (b) No. 253 UP Passenger (c) Between Panitola & Tinsukia stns. (d) Collision at an unmanned L-Xing with a Motor Car. (e) Failure of the Car Driver.	—	1 (Car Driver)	455	—
49.	South Eastern	(a) 12-10-1975 (b) Up RJY Special Goods (c) Leisingha station (d) Dashing against a Cabin and Derailment (e) Failure of Railway Staff.	—	4	9,86,000	—
50.	Northern	(a) 19-10-1975 (b) B 92 Down Goods (c) Between Sarupsar Junction and Mohan Nagar stations (d) Collision with a Truck at a L-Xing. (e) Negligence of the Truck Driver.	1	1	500	—
51.	Northern	(a) 19-10-1975 (b) T/Engine of 4 LL Passenger (c) Between Nakodar & Nurmahal stations (d) Collision at an unmanned L-Xing with a Tonga. (e) Failure of Railway Staff.	1	—	—	—
52.	Northern	(a) 21-10-1975 (b) 183 Up Goods Train (c) Between Mainpuri & Bhongaon stns. (d) Derailment after collision with a truck at manned Level Crossing. (e) Failure of the Railway Staff.	1	3	700	—
53.	North Eastern	(a) 25-10-1975 (b) 1 Up Passenger (c) Between Kanpur Central and Kanpur Anwarganj stations. (d) Fire in Compartment No. GS 7916 (e) Unlawful carriage of explosive material by passengers.	—	4	—	—
54.	Central	(a) 27-10-1975 (b) No. 772 Up Goods Train (c) Katni Murwara and Hardua stns (d) Collision at an Engineering L-Xing with a Motor Truck. (e) Failure of Railway Staff.	1 (Bus Driver)	6 (Others)	120	—
55.	South Eastern	(a) 4-11-1975 (b) SS 113 Up Goods (c) Between Morada and Riasma stations (d) Derailment (e) Failure of Mechanical Equipment as well as Railway Staff.	—	—	5,51,700	—

## APPENDIX-C (Contd)

Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly. assets.	Important Recommendations
			K	I		
1	2	3	4	5	6	7
					Rs.	
56. Eastern .		(a) 4-11-1975 (b) C-254 Dn. and 311 Up Passenger (c) At Saktigarh station (d) Collision between C-254 Dn and 311 Up (e) Failure of Railway Staff.	—	10	2,21,065	—
57. Northern		(a) 19-11-1975 (b) 411 Up and Allahabad Special Goods. (c) Naini station (d) Collision between 411 up and the Goods Train. (e) Failure of the Railway Staff.	—	—	14,24,873	—
58. Eastern .		(a) 27-11-1975 (b) Pilot No. 12193 CWD and Ex. 13 Goods (c) Sonnagar station (d) Collision between Pilot No. 12193 CWD and Ex. 13 Goods (e) Under Investigation.	—	—	9,49,000	—
59. Northern		(a) 9-12-1975 (b) T/Engine No. 1285 CWD of 1 MSN (c) Between Bharatgarh and Kiratpur stns. (d) Derailment at Unmanned L-Xing (e) Rashness of Road User.	5	8	8,717	—
60. Northern		(a) 15-12-1975 (b) Up Harduaganj Special Goods and Steam Engine No. 8755. WG. (c) Saktigarh station (d) Collision between Up Special Goods and Steam Engine (e) Failure of the Railway Staff.	—	4	42,47,093	—
61. South Eastern		(a) 19-12-1975 (b) 90 Down Express (c) Between Sason and Rengali stations (d) Collision with a Motor Truck causing Derailment at a Level Crossing. (e) Cause not established	2	2	6,000	—
62. South Eastern		(a) 1-1-1975 (b) Up BOX Special (c) Between Uslapur and Ghutku stations (d) Collision with brake van of Up covered empty special (e) Failure of the Railway Staff.	1	—	39,750	—
63. Western		(a) 1-1-1976 (b) 65 Up Passenger (c) Between Adesar and Piprala stns. (d) Collision with a Truck at an Unmanned L.Xing. (e) Failure of the Truck Driver.	2	2	700	—

## APPENDIX—C (Contd.)

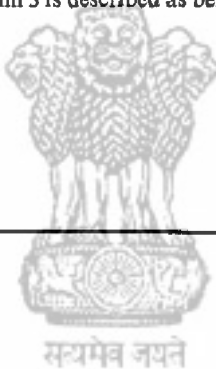
Sl. No.	Railway	Brief Description and cause	Casualties		Cost of Damage to Rly assets.	Important Recommendations
			K	I		
1	2	3	4	5	6	7
					Rs.	
64.	Northern	(a) 2-1-1976 (b) 31 Up Frontier Mail (c) Between Rohans-Kalan and Deoband stations. (d) Collision at unmanned L-Xing with a Bullock Cart (e) Failure of Bullock Cart Driver.	1	—	500	—
65.	Eastern	(a) 8-1-1976 (b) Ex. 49 Up Goods (c) Sone Nagar station (d) Derailment (e) Failure of Mechanical equipment and Railway Staff.	—	—	3,07,000	—
66.	Southern	(a) 18-1-1976 (b) No. 510 Up Palghat-Erode Passenger. (c) Between Somanur and Vajipalaiyam stations (d) Collision with a Motor Lorry at an Engineering L-Xing. (e) Negligence of the Lorry Driver	1	5	100	Upgrading of the L-Xing may be considered.
67.	North Eastern	(a) 28-1-1976 (b) 226 Dn. Passenger (c) Gorakhpur Cantt. (d) Collision with a Motor Truck at an Unmanned L-Xing (e) Negligence of the Truck Driver.	2	2	2,000]	—
68.	Northern	(a) 2-2-1976 (b) Up E/NDLS Special Goods (c) Phaphund station (d) Derailment (e) Failure of Material	—	—	11,32,880	—
69.	North Eastern.	(a) 2-2-1976 (b) 17 Up (c) Between Katihar and Semapur Stns. (d) Collision with a Bullock Cart at an Unmanned L-Xing. (e) Negligence of Bullock Cart Driver.	1	—	—	—
70.	North Eastern	(a) 21-2-1976 (b) 116 Dn. Passenger (c) Kannauj station (d) Collision at manned L-Xing with a Tractor (e) Failure of the Tractor Driver.	—	1	—	—
71.	Northern	(a) 23-2-1976 (b) T/Engine No. XT 38876 of IJJ Passenger. (c) Between Nawashahr Doaba and Banga station. (d) Collision with a Bus at an Unmanned L-Xing causing Derailment (e) Failure of the Bus Driver.	2	12	7,688	—

## APPENDIX C—(Contd.)

Sl. No.	Railway	Brief Description and caused	Casualties		Cost of Damage to Rly assets.	Important Recommendation
			K	I		
1	2	3	4	5	6	7
					Rs,	
72.	South Central	(a) 2-3-1976 (b) Shahabad-Sholapur Up Goods (c) Dhudhani stations (d) Derailment and Capsizing. (e) Failure of the Railway Staff.	—	2	7,69,848	(i) Procedure of recording vacuum in the Break-van at every station may be introduced. (ii) Inspectorial staff should check such records.
73.	Northern	(a) 17-3-1976 (b) Up G. S. Special and Dn. ART TDL (c) Hathras Junction (d) Collision between Up G. S. Special and the Dn. ART TDL. (e) Failure of the Railway Staff.	1	2	—	—
74.	Northern	(a) 23-3-1976 (b) 110 Up Lucknow Banda Express (c) Banda Station (d) Derailment (e) Failure of Mechanical Equipment.	—	4	—	—

NOTE : The Brief Description and Cause in Column 3 is described as below :

- (a) Date of Accident
- (b) Train or Trains involved
- (c) Location
- (d) Nature of Accident
- (e) Cause



# APPENDIX D

Year	No. of inquiries	Casualties		Damage to Railway Assets
		Killed	Injured	
1965-66 . . . . .	13	42	349	14,49,415
1966-67 . . . . .	23	299	1,006	21,01,668
1967-68 . . . . .	19	121	443	31,85,439
1968-69 . . . . .	18	121	501	35,01,525
Plus 510 Cattle heads				
1969-70 . . . . .	16	192	451	40,61,542
1970-71 . . . . .	20	34	408	30,81,576
1971-72 . . . . .	18	62	287	18,59,731
1972-73 . . . . .	14	36	229	12,90,420
1973-74 . . . . .	21	106	360	41,41,633
1974-75 . . . . .	25	142	201	24,32,028
TOTAL for 10 year period . . . . .	187	1,155	4,494	2,71,04,977
Yearly average of the 10 year period 1965-66 to 1974-75 . . . . .	19	116	423	27,10,498
1975-76 . . . . .	30	54	271	29,02,495



APPENDIX E

Serious Accidents enquired into by the Commission by Main Categories and Principal Causes

Nature of Accident	1965-66 to 1974-75	1975-76
Collision in Station Yard . . . . .	41	6
Collision in Mid-section . . . . .	14	2
Co'lsion in Automatic Signalling Sections . . . . .	15	1
Derailments . . . . .	56	7
Collisions at Level Crossings . . . . .	14	8
Fire in Trains . . . . .	17	4
Miscellaneous . . . . .	30	2
	187	30





# APPENDIX F

## ACCIDENTS FALLING UNDER SECTION 83 IN WHICH ENQUIRY WAS CONDUCTED BY THE RAILWAY ADMINISTRATION DURING THE 1975-76

Category	N. Rly.	N.E. Rly.	N.F. Rly.	S. Rly.	S.C. Rly.	S.E. Rly.	E.Rly.	C. Rly.	W. Rly.	Total
<b>1. Derailments</b>										
Defective Rolling Stock . . .	8	6	6	13	11	11	9	2	9	80
Defective P. way . . .	3	1	1	1	4	—	2	2	1	15
Failure of Rly. Staff. . .	4	9	5	7	10	7	4	4	2	52
Other Causes . . .	7	11	2	4	13	5	3	10	14	69
<b>TOTAL . . .</b>	<b>22</b>	<b>27</b>	<b>14</b>	<b>25</b>	<b>38</b>	<b>23</b>	<b>18</b>	<b>23</b>	<b>26</b>	<b>216</b>
<b>2. Collisions</b>										
Failure of Rly. Staff . . .	8	3	—	—	1	7	10	2	3	34
Other causes . . .	—	1	—	—	—	1	—	—	—	2
<b>TOTAL . . .</b>	<b>8</b>	<b>4</b>	<b>—</b>	<b>—</b>	<b>1</b>	<b>8</b>	<b>10</b>	<b>2</b>	<b>3</b>	<b>36</b>
<b>3. Fires in Trains</b>										
Due to defects in Rolling stock	1	1	—	—	1	2	—	—	2	6
Negligence of Passengers . .	2	1	—	—	—	—	1	—	—	4
Other Causes . . .	—	1	—	—	—	—	—	—	2	4
<b>TOTAL . . .</b>	<b>3</b>	<b>3</b>	<b>—</b>	<b>—</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>—</b>	<b>4</b>	<b>14</b>
<b>4. Level Crossing Accidents</b>										
Failure of Rly. Staff . . .	4	2	—	—	1	1	1	2	—	11
Failure of Road User . . .	18	15	12	8	5	7	3	3	10	18
<b>TOTAL . . .</b>	<b>22</b>	<b>17</b>	<b>12</b>	<b>8</b>	<b>6</b>	<b>8</b>	<b>4</b>	<b>5</b>	<b>10</b>	<b>92</b>
<b>5. Other Accidents . . .</b>	<b>1</b>	<b>—</b>	<b>—</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>—</b>	<b>6</b>	<b>17</b>
<b>GRAND TOTAL . . .</b>	<b>56</b>	<b>51</b>	<b>26</b>	<b>35</b>	<b>47</b>	<b>47</b>	<b>34</b>	<b>30</b>	<b>49</b>	<b>375</b>

**APPENDIX-G**

**ACCIDENTS UNDER SECTION 83 CATEGORY AND RAILWAY WISE FOR FOUR YEARS (1972-76)**

Railways		Collisions	Derailments	L-Xing	Fire in trains	Misc.	Total
CENTRAL	1972-73	6	20	3	5	—	34
	1973-74	4	17	6	—	—	27
	1974-75	5	17	6	2	—	30
	1975-76	2	23	5	—	—	30
EASTERN	1972-73	4	13	5	3	—	25
	1973-74	14	12	3	2	3	34
	1974-75	12	23	6	2	1	44
	1975-76	10	18	4	1	1	34
NORTHERN	1972-73	1	9	12	1	1	24
	1973-74	5	7	14	1	1	28
	1974-75	2	15	21	4	4	46
	1975-76	8	22	22	3	1	56
NORTH EASTERN	1972-73	4	13	6	—	1	24
	1973-74	4	22	13	1	—	40
	1974-75	1	31	14	2	—	48
	1975-76	4	27	17	3	—	51
NORTH EAST FRONTIER	1972-73	1	12	5	—	—	18
	1973-74	1	15	5	—	—	21
	1974-75	2	26	8	—	—	36
	1975-76	—	14	12	—	—	26
SOUTHERN	1972-73	1	5	16	—	4	26
	1973-74	5	12	12	2	2	33
	1974-75	2	10	18	1	7	38
	1975-76	—	25	8	—	2	35
SOUTH CENTRAL	1972-73	1	16	8	1	14	40
	1973-74	3	14	6	1	8	32
	1974-75	2	20	10	5	4	41
	1975-76	1	38	6	1	1	47
SOUTH EASTERN	1972-73	7	12	7	3	—	29
	1973-74	11	17	3	—	3	34
	1974-75	10	31	11	—	4	56
	1975-76	8	23	8	2	6	47
WESTERN	1972-73	2	17	10	3	7	39
	1973-74	3	20	16	2	8	49
	1974-75	—	19	17	2	1	39
	1975-76	3	26	10	4	6	49
TOTAL	1972-73	27	117	72	16	27	259
	1973-74	50	136	78	9	25	298
	1974-75	36	192	111	17	21	377
	1975-76	36	216	92	14	17	375

## APPENDIX H

### PROCEEDINGS OF THE CONFERENCE OF THE COMMISSION OF RAILWAY SAFETY HELD AT NEW DELHI FROM 15TH TO 17TH DECEMBER, 1975

The Conference was opened at 11.00 hrs. on 15th December, 1975 and the following were present :—

1. Shri Raj Bahadur, Minister for Tourism & Civil Aviation.
  2. Shri Surendra Pal Singh, Minister of State for Tourism & Civil Aviation.
  3. Shri Mohd. Shafi Qureshi, Minister of State for Railways.
  4. Shri M. N. Bery, Chairman.
  5. Shri G. P. Warriar, Member (Staff).
  6. Shri B. M. Kaul, Member (Traffic).
  7. Shri P. N. Kaul, Member (Mech.).
  8. Shri P. K. Ananthanarayanan, Additional Member (Staff).
  9. Shri A. B. Lal, Addl. Member (Staff).
  10. Shri K. L. Berry, Addl. Member (Mech.).
  11. Shri U. S. Rao, Addl. Member (Vigilance).
  12. Shri Laljee Singh, Director (S. & T.).
  13. Shri S. P. Sharma, Jt. Director (Safety) {
  14. Shri V. K. Thapar, Jt. Director (Safety).
- } Railway Board.
15. Shri Arya Bhushan, Commissioner of Railway Safety, Lucknow.
  16. Shri P. M. N. Murthy, A.C.R.S., Western Circle, Bombay.
  17. Shri S. K. Mojumdar, A.C.R.S., Eastern Circle, Calcutta.
  18. Shri K. N. Kamath, A.C.R.S., Southern Circle, Bangalore.
  19. Shri J. Y. Marathe, A.C.R.S., Northern Circle, Lucknow.
  20. Shri B. G. Divgi, A.C.R.S., Central Circle, Bombay (on 16th & 17 Dec. only).
  21. Shri A. V. Jacob, A.C.R.S., North Eastern Circle, Gorakhpur (Designate).
  22. Shri B. J. J. Rao, A.C.R.S., South Eastern Circle, Calcutta (Designate)
  23. Shri Suresh Chandra, Dy. C.R.S. (G), Lucknow (Designate).
  24. Shri G. C. Saxena, Dy. C.R.S. (S. & T.), Lucknow.
- } Commission of  
Railway Safety.
25. Shri Puran Chand, Information Officer, Ministry of Tourism & Civil Aviation.
  26. Shri P. Khanna, Sr. Hindi Officer, Ministry of Tourism & Civil Aviation.
  27. Shri S. B. Bhattacharya, Under Secretary, Ministry of Tourism & Civil Aviation.
  28. Shri V. Satyamurti, Dy. Managing Director (F. & A.) Indian Airlines (by invitation).

Welcoming the Ministers and other honoured guests, Shri Arya Bhushan, Commissioner of Railway Safety, addressed as follows :—

I have great pleasure in welcoming you all on this important occasion of the inauguration of the Conference or Commission of Railway Safety. I am indeed grateful to Shri Raj Bahadurji and thank him very much for the trouble he has taken to be present amongst us and to inaugurate the Conference. He has been associated with our Organisation for a long time and is fully conversant with our activities, the nature of work we do and the various problems we face. His presence amongst us is, therefore both a source of encouragement as well as inspiration. I am sure, Sir, that your words of wisdom and guidance will be of great value to us and we feel honoured.

I also welcome and thank the Minister and Officers of the Railway Ministry and the Ministry of Tourism & Civil Aviation who have so kindly spared their valuable time to be present today. I am particularly grateful to Shri Qureshi, who was kind enough to accept our invitation at short notice. We had also requested the Minister of Railways, Shri Kamalapati Tripathi to grace the occasion but unfortunately it was not possible for him to join us due to unavoidable circumstances. He has, however, kindly sent a message which will be read out later.

It is particularly significant that a conference of the Commission which is being inaugurated by our Minister and with which the Railway Ministry is associating itself, is the first of its kind after the country gained independence. In fact the only other such conference was held in 1945. That conference was inaugurated by Sir Mohd. Usman, the then Member for Posts & Air of the Viceroy's Executive Council, and Sir Edward Benthall, Member for Railways and War Transport, was present along with the Chief Commissioner and other members of the Railway Board. Sir Mohd. Usman in his address had emphasised the need for frequent, thorough and impartial inspections and inquiries to inspire public confidence. He had called upon the officers to be fair and just but fearless in their criticism. He had also felt that considering the heavy and responsible duties of the organisation, there was urgent need to strengthen the organisation. Accordingly, Shri Dev Datt, the then Chief Government Inspector of Railways prepared a Post-war Development Plan which, however, could not be implemented as the Railways, at that time, needed officers for their own development plans and could not spare them in sufficient number. The proposal was thus shelved.

Considerable progress has, since, been made. In 1960 a new circle was created at Calcutta to cope with the increased workload due to heavy construction activities in that area. In 1961, the Organisation, which till then, was called the Railway Inspectorate, was renamed as the Commission of Railway Safety; the Chief Government Inspector of Railways was re-designated as the Commissioner and the Government Inspectors as Additional Commissioners.

In pursuance of the recommendations of the Kunzru Committee of 1962, it was decided to recruit the Additional Commissioners from amongst Chief Engineers on Indian Railways. Some of the posts, however, remained vacant for a long time due to lack of volunteers from serving Chief Engineers as there was not sufficient attraction for them. The posts were, therefore, upgraded and their pay scales were made substantially higher than those of Chief Engineers and the Commissioner of Railway Safety thus upgraded to the rank of a General Manager. With this upgradation, it became possible to fill up the vacancies. As per recommendations of the Wanchoo Committee of 1968, the number of circles was increased from five to seven.

I am happy to report Sir, that with the passage of time, on account of the changes enumerated above, the stature of the organisation has considerably improved. This has resulted in tremendous increase in

public confidence in the inquiries held by its officers. The demand for a judicial inquiry by public & press after every accident, which used to be very strong earlier, has become a thing of the past.

With the revision of the pay scales of Chief Engineers by the Third Pay Commission, the advantage gained by the Additional Commissioners earlier, has been lost and there is again a reluctance on the part of Chief Engineers to volunteer for joining the Commission. After protracted correspondence, to overcome this difficulty it had to be decided to accept Additional Chief Engineers also for these posts and recently we have been able to get the names of the officers approved by the A. C. C. The approval for the posting of Deputy Commissioner of Railway Safety (General) has also been received and I welcome all the three officers into our fold.

On the recommendations of the Kunzuru Committee, a Technical Wing was added to advise the Commission in various disciplines of Railway working, viz. Mechanical, Electrical, Signal & Telecom. Engineering and the Operating Department. Due to lack of volunteers, however, all the posts in the Technical Wing could not be filled and sanction for the posts of Mechanical & Operating Departments lapsed. These have now been revived and action has been initiated to fill them. Here, I may mention that the posts of Dy. C.R.Ss in the Technical Wing being only in the Junior Administrative Grade, deputation allowance is not a sufficient attraction for senior officers except on rare occasions when some people volunteer for personal reasons. The post of Dy. C.R.S. (Electrical) is lying vacant after the incumbent proceeded on leave preparatory to retirement. There are also no volunteers so far as the Mechanical and Operating posts. The proposal of providing higher grades for these posts is, therefore, under consideration.

I am particularly happy to report Sir, that the Commission has had the full co-operation of the Railway Board and there have been very few occasions when there was difference of opinion on the acceptance of any recommendations made by the Commission are accepted in full and a few with slight modifications, to suit the operating conditions.

Some of the more important recommendations made by the Commission of Railway Safety may be mentioned :—

- (i) Improved system of signalling and interlocking to avoid conflicting train movements and provision of lock and Block on Double Line sections.
- (ii) Improving the siting, visibility and maintenance of signals.
- (iii) Track circuiting of reception lines at stations, to make it impossible for Station Masters to take 'OFF' signals for an occupied line.
- (iv) Provision of automatic train control to prevent accidents caused by drivers passing signals at danger.
- (v) Provision of driver's Vigilance Device to ensure alertness of the driving crew.
- (vi) Provision of anti-telescopic coaches on passenger carrying trains. According to recent observations casualties even in very serious accidents have been much less with the use of this type of coaches. The latest example of this was the recent accident on the Central Railway where one of the coaches fell down the embankment into the dry bed of the river 20 ft. below, and only two passengers sustained grievous injuries with six others having had minor injuries.
- (vii) Ultrasonic testing of axles of locomotives and rolling stock during P.O.H. to detect hidden flaws.

- (viii) Ensuring adequate rest for operating staff and limiting maximum hours of duty.
- (ix) Undertaking publicity campaigns through mass media to educate the public to exercise adequate caution at level crossings and to avoid carelessness and unsafe practices to prevent fire hazards.
- (x) Need to solve the law and order problem in the country which has a vital bearing on safety in rail travel.
- (xi) Evolving an improved design for the fixture of axle pulleys of train lighting dynamos, some of which were breaking and falling on the run.
- (xii) Conducting psychological studies by setting up a Psycho-Technical Cell to devise ways and means of improving the human element, which is the most predominant factor in the causation of accidents, by proper recruitment and training.

The Commission has continued to study foreign accident reports and apply its mind to those which have occurred under similar conditions on the Indian Railway and brings them to the notice of the Railway Board for suitable action.

While going through some of the accident inquiry reports of the British Railways, it was noticed that the staff involved in accidents were generally forthright and straight forward and made a clean breast of their lapses. The position on the Indian Railways is, however, different. The staff involved in accidents rarely speak the truth. I, therefore, requested the Railway Board to ascertain the state of affairs on the British Railways which is conducive to the level of honesty observed among railway staff in that country. From the information received recently, it is observed that the approach of the British Railways towards punishments has undergone a radical change in recent years due to better understanding of human psychology. I hope that the Indian Railways will study this problem scientifically and adopt a more human attitude towards individual failures which, in many cases, stems from momentary aberrations. By doing so, we may be in a better position to elicit true facts and make the accident inquiries more realistic and better oriented towards eliminating the weaknesses of the system.

One other aspect which was noted is the personal approach adopted by the Railway Inspectorate in U. K. towards the failure of the individuals involved. In some cases in India also, we have followed this example. For instance, in the collision between two sub-urban trains which occurred at Gharni Road on the Western Railway in October, 1974, the Motorman of the colliding train lost both his legs. Taking an overall view of his failure, it was recommended that he should be dealt with leniently and helped to rehabilitate himself. It is a matter of great satisfaction that this suggestion was accepted by the Railway Administration, who provided him with an alternative job in the workshop after equipping him with artificial limbs. The motorman was thus not lost to the society.

In another inquiry in U.K., it was found that the Driver was prescribed Valium, a tranquiliser, which had depressed his reactions and apparently he had responded to a change in signal aspect without attaching due significance to the change. In view of the fact that indiscriminate use of drugs (medicines) is much more prevalent in this country than in U.K., it has been suggested to the Railway Board to ensure that all staff directly connected with train movements are made aware of the dangers of using such drugs except under medical supervision.

Last year, the Commission had observed that the incidence of fires in Electric Locomotives and E.M.U. coaches was on the increase. The matter was studied in detail by the Dy. Commissioner of Railway Safety (Electrical) and certain shortcomings were noticed both in the design and the maintenance aspects. The Railway Board were advised accordingly and suitable

action has been taken by them to eliminate the weaknesses. Stricter control is also being exercised now on the standards of electrical equipment and their maintenance.

I would take this opportunity of mentioning a number of proposals which the Commission of Railway Safety has initiated and which are being processed in the Ministry. I hope that those proposals will be accepted early so that the working of the Commission becomes more effective.

The first and the foremost amongst these is the need for increasing the age of superannuation of the officers of the Commission. With the recruitment to the Commission of Railway Safety, being from serving Chief Engineers and Additional Chief Engineers of the Railways, the officers are generally in the age group of 52 to 54 years. It takes them one or two years to become fully conversant with work, which differs considerably from that of the Chief Engineers. By superannuating these officers at the age of 58 years, their period of useful service in the Commission gets limited to only about three or four years which is considered inadequate to make full use of their mature experience. A proposal has, therefore, been put up to raise the age of retirement of these officers to 62 years and also for the Commissioner being appointed on tenure basis for a minimum of three years. If this is done, it will not only make these officers useful to the Commission for a longer period but will also provide an incentive for better and senior officers to volunteer from the Railways to join the Commission.

The Railway Safety Section of the Ministry of Tourism & Civil Aviation functions both as a secretariat section as also the office of the Commissioner. The office was earlier located in Simla but was shifted to Meerut in October, 1963 and later to Lucknow in January, 1966. This unusual feature of a Secretariat Section being located away from the main Ministry has led to considerable difficulty in its functioning. Due to the section not being located at Delhi, the availability of files and their processing in the Ministry becomes very difficult and often proposals get delayed or are inadequately dealt with. Even in technical matters, a certain amount of communication gap is created between the Ministry, the Railway Board and the Commission on account of the latter being headquartered away from Delhi. Both the Kunzuru Committee and the Wanchoo Committee had recommended that the Commission's Headquarters should be located at New Delhi. Unfortunately the implementation of this recommendation has not been possible, the main hurdle being lack of suitable accommodation. The total number of staff in the Commission's office, including the seven officers, is about 40. Finding suitable accommodation (only about 4000 Sq. ft.) for this small strength should not be difficult. I have already requested the Railway Board to help the Commission by making this small area of office accommodation at New Delhi available for the Commission.

Finally, I have to mention a very minor matter which has long been in correspondence with the Ministry of Railways. For several years, the staff of the Railway audit have been enjoying the facility of Passes and P.T.Os while the staff of the Commission have been denied this privilege even though by the nature of their work, they stand on a similar footing. I am sure that considering the small number of the staff involved and the fact that they wholly work for the Railways, the matter will be favourably considered and this reasonable request of our staff will be agreed to at an early date.

In the end, I would again thank you all for your kind and patient hearing and request Shri Raj Bahadurji to inaugurate the Conference.

Inaugurating the Conference, Shri Raj Bahadurji Minister of Tourism & Civil Aviation addressed as

under :—

While welcoming the Minister of State for Railways, Chairman & Members of the Railway Board and other Officers attending the Conference, the Minister expressed his regret that due to his indisposition, it has not been possible for the Railway Minister, Shri Kamalapati Tripathi to attend this Conference. He wished him speedy recovery.

Continuing, the Minister expressed surprise that this happens to be the first occasion after Independence at which the Chairman and Members of the Railway Board and Officers of the Commission of Railway Safety had assembled. He felt that such meetings should be held more frequently, say once in two years if not every year, for exchanging views to ensure fruitful results. He emphasised the need for close co-ordination between the two bodies and to have mutual co-operative efforts in the national interests. After all, the officers belonged to the same category and it is only that some had shifted to another family. By joining another family it did not mean that they had been separated. If an accident occurred on the Railways, it was not that the Railway Board only was responsible. In fact, it was the responsibility of the whole Government. It is only right that the independence of the Commission which is under his Ministry, should be fully ensured to inspire public confidence. This could be done even by keeping the Commission under the Railway Ministry. He was not, however, suggesting the same. The Commission of Air Safety, which is being formed as recommended by the Tata Committee, would be independent of the D.G.C.A., but under the Ministry of Tourism & Civil Aviation. Independence, impartiality and objectivity come into the picture during inquiries into accidents and in the absence of these, the people of the country would be certainly upset. The Railways are the largest national undertaking in the country and any accident on it will have serious repercussions. He felt that involvement of staff at the lowest rung was necessary to avoid accidents.

Inspections by officers of the Commission should be honest and pains-taking. If such inspections were not done, the passengers would do it. Even a lay man could find out where track was bad. Inspections, however, were only a means to an end. Inspections must be followed up by quick implementation of the recommendations. For this purpose, the Railway Board must evolve its own machinery. If, in any case, the recommendations of the Commission are not acceptable to the Railway, the Commission and the Railway Board should sit together and discuss them before a final decision is taken.

While it is the duty of the officers of the Commission to criticise railway working, where necessary, such criticism should be free from bias, predilections and prejudices. This must be constructive and so far as the Railways are concerned, they should err on the side of safety and treat the criticism in a spirit of acceptance.

Regarding lack of volunteers for posts of officers in the Commission of Railway Safety, it could be that it is more due to psychological reasons than anything else. He did not want the Commission to be a dumping ground of retired or too tired officers of the Railways. He strongly felt that the Commission should be manned by officers of the level of Members and Chairman of the Railway Board. He saw no reason why the Commissioner of Railway Safety should not be eligible to become a Member of the Railway Board. After all, independence meant objectivity and not isolation.

In regard to the suggestion of the C.R.O. to enhance the age of retirement, the Minister suggested that the Railway Ministry should go into all the connected aspects and spell out measures required to make the posts in the Commission more attractive. Unless

the Commission is manned by good officers, the very purpose of creating it, would be defeated.

Stressing again the need for frequent meetings, he said that there was necessity for periodic stock-taking of the recommendations made by the Commission and those implemented. A month to month review might be fruitful.

He expressed concern at the use of drugs by railway staff. In the Airlines, use of drugs by staff for at least 12 hours before they come on duty is prohibited.

In regard to the request for issue of passes and P.T.Os to the staff of the Commission, he said that the number being so small and the justification being so apparent, the Railway Ministry should have no hesitation in accepting it. It is to be remembered that the staff of the Commission work wholly for the Railways and it was unfair to deny them even this little mercy.

As regards location of Headquarters of the Railway Safety Commissioner, distance should not be a hindrance. The proposal, however, has merits and should be considered.

He welcomed this meeting whole-heartedly since this took place at a time when the nation required improvement on all fronts. The environment in the country was now different. The country passed through a crisis till the 25th of June when emergency was declared, the results of which were clear. Shri Qureshi had taken so much pains in improving the working of the railways. Trains were now running punctually, people were not being harassed and ticketless travelling had come down. The Prime Minister had pointed out that punctuality, a sense of discipline and dedication to duty should pervade all our activities. Every one of us should be sincere to himself, otherwise he cannot work for the nation. He expressed the hope that this Conference would bring in greater benefits to the nation in the form of safe rail travel.

Shri Kamalapati Tripathi, Minister for Railways, who could not attend the Conference due to indisposition, sent the following message :—

"I am glad to know that Conference of the Officers of the Commission of Railway Safety is being held in December 15, 1975 at New Delhi.

The Conference will discuss the safety problems on the Railways and methods for the improvements in the standards of operation to make travel safer and speedier. Since the promulgation of Emergency safety on the Railways has greatly improved. I hope the proposed Conference will suggest measures for speedier and safer travel on the Railways.

I wish the Conference all success."

Shri Mohd. Shafi Qureshi, Minister of State for Railways, addressed the Conference as follows :—

"I am indeed grateful to Shri Raj Bahadurji, and the Commissioner of Railway Safety Shri Arya Bhaushan for inviting me to this forum.

The Indian Railways, which extend over a route Kilometrage of over 60,000 and run nearly 10,000 trains everyday, have been giving and continue to give the highest importance to ensuring safety of passengers and goods carried on the Railway System. The Government had, in fact, in the last 15 years appointed two high powered Commissions to make a close and comprehensive study of the causes of accidents on the Railways and to suggest ways and means, including technological improvements for minimising their incidence. The recommendations of these two bodies were given the most careful consideration and most of them have already been implemented with beneficial results. The incidence of consequential accidents which comprise derailments, collisions, accidents at level crossings and fires in trains has, for example,

come down substantially over the last nearly 20 years. As against 1686 such accidents in 1952-53 and 1201 in 1965-66, there were only 925 such accidents in 1974-75. And this significant improvement was registered in spite of the fact that the total traffic handled by the Indian Railways, i.e., train kilometres run had increased from about 304 million kilometres in 1952-53 to 450 million kilometres in 1974-75.

The Ministry of Railways has been making continuous endeavours to further reduce the incidence of accidents by modernising equipment, introducing sophisticated signalling systems like route relay interlocking, centralised traffic control and other modern methods such as track circuiting, track welding and vigilance control devices etc. The Railways truly constitute the arteries of our transport system and we can ill-afford to have accidents which disrupt the movement of traffic vital to the needs of economic development of the country and essential for the maintenance of the life of the community. The Railways, have therefore, on their own and in the light of the recommendations made by the two Commissions i.e., the Kunzuru Committee and the Wanchoo Committee, as also the recommendations made by the Commissioner of Railway Safety and Additional Commissioners of Railway Safety from time to time instituted several steps to make passenger travel and carriage of goods safer. Among these steps, one of the major efforts has been to create and develop continued safety consciousness amongst the staff. To this purpose, a Safety Organisation was set up on each Zonal Railway nearly 10 years back and today this Organisation is not only responsible for conducting enquiries into accidents, but has also to devise ways and means for educating the staff in respect of their day-to-day responsibilities, creating safety consciousness through propaganda, refresher courses, on line staff contacts and through other media like display of films, posters, etc. Human factor is one of the major causative factors in accidents on the Indian Railways. It has been estimated that nearly 70 percent of the accidents on the Indian Railways are caused as a result of the failure of human element. It is, therefore, extremely necessary to pay a very close and sustained attention to the training of staff and creation of adequate awareness of safety so that mistakes are not repeated. The Safety Organisation on the Railways maintain a close liaison with the Additional Commissioners of Railway Safety and is responsible for the implementation of the recommendations made by the officers of the Commission of Railway Safety from time to time. The Railways have also taken another important step in setting up a Psycho-Technical Cell for carrying out research regarding the personality profiles required for different types of jobs and for devising different types of tests for selecting staff at the recruitment and promotional stages. Such tests have already been introduced in respect of important categories of staff like Station Masters, Drivers, Motormen etc. at the stage of recruitment by the Railway Service Commission.

It is indeed heartening that whenever there is a serious accident, the A.C.R.S. reaches the spot immediately for inspection and being an independent body, public are convinced of the impartiality of the inquiry. Parliament is also advised of this, if in session. Recently we have revised the rates of compensation for accident victims. Human life is precious and monetary compensation is certainly not a substitute for the life lost. However, the claims of persons involved should be settled promptly and the Commission of Railway Safety may suggest ways and means to achieve this.

I am glad that there has been close co-ordination and co-operation between the Commission of Railway Safety and the Ministry of Railways as has just been mentioned by the Commissioner of Railway Safety. I assure you that the Ministry of Railways has not only been accepting most of the recommendations made by the Commission but has also been making every

possible effort to ensure their nearly and rapid implementation. In fact, the Railway Board has a Cell which continuously watches implementation of these recommendations.

I have also no doubt that the two points regarding passes for the staff of the Commission of Railway Safety and office accommodation for the Commission of Railway Safety at Delhi will receive due consideration.

I have to thank Shri Raj Bahadurji and the Commissioner of Railway Safety once again for having given me this opportunity to participate in the inaugural function of the meeting of the A.Cs. RS.

I wish all success to the deliberations of this meeting."

The Ministers and the officers of the Railway Board left after the inaugural session. Shri Arya Bhaushan, Commissioner of Railway Safety then took the chair and the Conference proceeded with the business session to deal with the subjects on the agenda.

**All A.Cs.R.S.** Extending a warm welcome to the new Officers, who are to join the Commission shortly, the Commissioner of Railway Safety referred to the speech of Sir Mohd. Usman when he inaugurated the first meeting in 1945—that the officers of the Inspectorate should be fair and just but fearless in their criticism. He also referred to the Minister's inaugural speech in which he had said that criticism should be unbiased and made in a spirit of effecting improvement in standards. It may be that sometimes the voice of the Commission is not heard and the recommendations are not accepted but this should not be a cause for losing heart, e.g. the recommendation regarding anti-telescopic coaches was made 30 years ago but accepted and implemented much later. The Commission should feel proud that such recommendations have helped in reducing accidents and casualties. Recommendations made may have to be repeated a number of times but if we are convinced about their usefulness, they should be pursued e.g. the recommendation regarding the need to improve the law and order position was made in 1972 and has been pursued.

**All A.Cs.R.S.** A.Cs.R.S. should keep their eyes and ears open, adopt and develop powers of keen observation. Fouling marks missing in station yards is a common sight. Wagons overdue P.O.H. are running in service indiscriminately. In this context, he suggested that it should be examined, whether the increased period of P.O.H. has had any effect on the increased incidence of failure of roller bearings. During inquiries into accidents, nothing should be taken for granted. Sometimes, even senior people may unwittingly give incorrect information as they may not be conversant with all types of equipment.

Addressing specially the new officers, the C.R.S. said :—

(i) They should develop an inquisitive mind and stress should always be on why and how. It must be remembered that effort should always be to find out ways and means of improving the system rather than to find fault with an individual to condemn him.

(ii) They should keep themselves abreast of modern technical developments—the process should be one of continuous education.

(iii) Recommendations should always be practical and should also keep an eye on economy.

(iv) They should study old Inquiry Reports and maintain a separate record of recommendations made from time to time. For this purpose, a register of recommendations and their implementation, should be maintained in each office.

(v) Printed reports should be studied and categorised in different classes alongwith brief precis.

(vi) The inquiries should be deep probes and a scientific approach should be adopted. While fixing individual responsibility, humanitarian approach should be the watchword.

(vii) Last but not the least, there was need to maintain cordial and co-operative relations with the Railways but at the same time to remain firm in our dealings with them.

**SUBJECT No. 1 : Review of the minutes of the last Conference**

Position of the items of the meeting held in October/November, 1974 was reviewed and was as under :—

**Item 4 (Oct '74): Marshalling of coaches on passenger trains :—**

**All A.Cs.R.S.** Necessary instructions had since been issued by the Railway Board to the Railways to ensure that anti-telescopic coaches are invariably attached in the front and the rear on all Mail and Express trains. A.Cs.R.S. should take up if there is any infraction.

**Item 5 (Oct '74): Location of the sighting boards, i.e., whether it should be on the right hand side or the left :—**

**All A.Cs. R.S.** Replies from all the Railways have been received which indicate that the sighting boards should be on the same side as signals except for special reasons. In regard to increasing the distance of sighting boards on down gradients, only two railways viz. South Central and Eastern have implemented the instructions.

**Item 15 (Oct'74): Responsibility of the Commission in respect of Toy Trains :—**

It had been suggested in the proposed amendment to the Indian Railways Act that trains with gauge less than 2 ft. should be treated as toy trains. A letter had also been written to the Railway Board in August, 1975. They should be reminded.

Position regarding items of the meeting held in May, 1975 was as under :—

**Item 5 (May '75): Need to revise Note at page 11, Chapter VI, against Item 1(a) of the Rules for opening of Railways :—**

**S.O.** Railway Board had been addressed suggesting necessary amendments to the 'Rules for the Opening of a Railway' for treating temporary diversions irrespective of length as new minor works unless a new station is involved. The Railway Board need to be reminded for early action.

**Item 6 (May '75): Clarification of the Note against 0:51 at page 82 of the questionnaire in Rules for Opening of Railways (form IX) :—**

**S.O.** Railway Board's reply had been received and copy is being endorsed to A.Cs.R.S.

**Item 7 (May '75): G.R. 125—How far is it practicable to follow it, and is a revision justified?**

**S.O.** The Railway Board had been addressed and they need to be reminded.

**Item 8 (May '75): Simultaneous reception of trains on single line sections :—**

**S.O.** The Railway Board should be addressed to find out the full background which led to the issue of instructions contained in their letter No. 69/Safety/29/8 dated, 16-6-1969.

**Item 9 (May '75): Relaxation/Deviation from Codes of Practice—Mode of obtaining dispensation :—**

**S.O.** It was agreed that in such cases, the Railways should address the Railway Board requesting for condonation of the deviation involved through the A.Cs.R.S. The Railway Board should be addressed to issue suitable instructions to the Zonal Railways.

**Item 10 (May '75): Frequency and extent of General Manager's Inspection Specials, and their effect on the A.Cs.R.Ss' Inspection.**

**S.O.** The statistics received from the A.Cs.R.S. should be put up to the C.R.S.

**Item 11 (May '75): Continuing coaches in service beyond their 'Return Date'.**

**Item 19 (May '75): Wagons overdue P.O.H.—C.R.S.s letter No. RS. 28-T(10)/74, dated, 25.9.1974 to the Railway Board.**

**S.O.** As decided in the meeting in May, 1975 the Railway Board had been addressed to ascertain how it was being ensured that coaching and goods stock retained in service beyond the due date of P.O.H. have actually been examined and authorised to 'run in service'. It is necessary that the Railway Board should evolve a system to regularise and ensure that, overdue coaching and goods stock retained in service have a proper authorisation and such authorisation, should be readily available for inspection. The Railway Board should be reminded for expediting the reply.

**Item 12 (May '75): Adequate distance, and simultaneous reception of trains in a group of goods reception lines at a 'terminal' station :—**

**All A.Cs.R.S.** The A.Cs.R.S. were required to ascertain the incidence of accidents due to goods train over-shooting the 'Stop Boards' in terminal yards. This information had not so far been received from some of the circles. The information should be submitted by all the circles early so that the items can be considered further at the next meeting. With regard to limiting the working hours of running staff, it was desired that the A.Cs.R.S. should continue to keep a close watch.

**Item 15 (May '75): Use of detonators more than 7 years but less than 10 years old on Branch Lines.**

**A.C.R.S. NE Circle** A.C.R.S. (designate)/N.E. Circle, mentioned that according to the N.E. Railway, the life of detonators had been extended to 10 years under orders of the Railway Board. He was asked to obtain a copy of Board's letter and send it to the C.R.S.

**Item 18 (May '75): Rail Failures**

**S.O.** The Railway Board had been addressed and a reply has been received. The case is being put up to C.R.S. and copies are being sent to A.Cs.R.S.

**Item 20 (May '75): Ultrasonic testing of axles—difficulties in respect of certain types :**

**S.O.** The Railway Board had been addressed and they have asked the R.D.S.O. to deal with the matter. Since then there has been some correspondence between the R.D.S.O. and the Railway Adviser in London. This is to be pursued.

**Item 21 (May '75): Criteria for sanctioning test of new designs of rolling stock at speeds higher than 145 Km/h.**

**Dy. GRS (G)** The previous papers with regards to the discussion between C.R.S. and the R.D.S.O. in 1972 should be put up to C.R.S. by Dy. C.R.S.(G) for finalising the procedure to be adopted for certifying new rolling stock for trials and commissioning.

**Item 22 (May '75) : Procedure to be followed by the Competent Authority when dispensing with the provisions of some of the General Rules whether the A.Cs.R.S. need be consulted and/or informed, and whether a Gazette Notification is obligatory under Section 4(3) of the Indian Railways Act:**

**Dy. CRS(G) S.O.** The Railway Board had been addressed that in case of emergency when a 'General Rule' has to be specially dispensed with or modified, a copy should invariably be furnished to the A.Cs.R.S. concerned as also to the C.R.S. The Railway Board need to be reminded for necessary action. The need for Gazette Notification is to be examined separately.

**Item 24 (May '75): (a) Revision of Indian Railways Act:**

**Dy. CRS(G)** The papers have been received in the Commission and are under consideration.



Item 24 (May '75): (b) *Drunkness among driving crew on duty:*

**S.O.** The Railway Board had been addressed and they are to be reminded.

**SUBJECT NO. 2 :** *Outside Check-Rails at a Level Crossing:*

Proposed by : North Eastern Circle.

**Dy. CRS(G)** It was stated by the Dy. CRS(G) and A.C.R.S. designate, N.E. Circle, that on the Northern and Western Railways, wooden sleepers had been used outside the running rails at some locations with advantage. This drawing may be obtained from the Northern Railway and the matter referred to the Railway Board, if necessary.

**SUBJECT NO. 3 :** *100% over stress in masonry of piers and abutments of bridges*

Proposed by : North Eastern Circle.

**All A.Cs.R.S.** It was understood that a correction slip had since been issued to the Bridge sub-Structure Code restoring provisions of old Para. 24-3 A.Cs.R.S. were asked to check up.

**SUBJECT NO. 4 :** *Jacketting of masonry of bridges.*

Proposed by : North Eastern Circle.

There should be no objection to permitting jacketting of masonry of bridges with proper precautions including pressure grouting of cracks in distressed masonry before jacketting. In all such cases there should be a through RCC bed block on the top.

**SUBJECT NO. 5 :** *Inspections of Ferries and Wharves.*

Proposed by : North Eastern Circle.

**Dy. CRS(G)** Local ferries and wharves which connect rail ghat are part of the Railways as undefined under Section 3(4)(d). A reference should be made to the Railway Board in this connection as it was felt that inspection of ferries and wharves should not be taken up by the Commission as it is not equipped for this type of work.

**SUBJECT NO. 6 :** (a) *Railway accidents—Disciplinary Action against staff.*

(b) *Inquiries into accidents—Veracity of evidence.*

Proposed by : (a) North Eastern Circle.

(b) Central Circle.

The Railway Board had been addressed and there is some correspondence between the R.D.S.O. and the Railway Adviser in London. The matter is being examined by the R.D.S.O.

**SUBJECT NO. 7 :** *Safety Certificate from the C.M.E. to be furnished by the Railway Administration for permitting transport of ODCs at a speed of 25 Kmph.*

Proposed by : Western Circle.

**All A.Cs.R.S. Dy. CRS(G)** On the Southern & Western Railways, a Safety certificate from the C.M.E. is furnished if the speed of the ODC exceeds 15 Kmph. It was decided that the practice obtaining in Southern Circle may be followed in all Circles. It was mentioned by the A.C.R.S./Western Circle that one of the stipulations on the Southern Circle was that the wagon containing the ODC should be attached next to the engine so that the driver can notice any shifting of the consignment and stop the train, if necessary. Circle officers may send standard conditions stipulated by them for movement of ODC's to the C.R.S. based on which unified conditions could be evolved.

**SUBJECT NO. 8 :** *Accidents due to breakage of shackle pins of Metre gauge goods stock.*

Proposed by : Central Circle.

**S.O.** Railway Board was addressed in the matter vide letter No. RS.24-T(7)/74, dated 17-10-1975. They should be reminded.

**SUBJECT NO. 9 :** *Carrier bracket of vacuum reservoir with bigger section in width and thickness of the flat to hold the weight of the reservoir in running movement.*

Proposed by : Central Circle.

**All A.Cs.R.S.** Other A.Cs.R.S. have had no such experience and this appears to be an isolated occurrence. A watch should, however, be kept and if the incidence is large the matter should be taken up.

**SUBJECT NO. 10 :** *Review the delays occurring in submission of accident reports by A.C.R.S. as also in their being processed thereafter, and suggestions to reducing such delays.*

Proposed by : Commissioner of Railway Safety.

**All A.Cs.R.S.** It was decided that reasons for delays of more than 90 days in the submission of reports with effect from 1-4-1974 should be advised to the C.R.S. It was agreed that attempts should be made, but without in anyway sacrificing the scope or quality of the investigations, to submit reports in due time.

**SUBJECT NO. 11 :** *Decide the type of accident for which reports of joint enquiries conducted by Railways may be called for.*

Proposed by : Commissioner of Railway Safety.

**All A.Cs.R.S.** It was decided that reports of accidents falling under Section 83 and all train accidents should be obtained from railway administrations. Referring to the spate of mid-section derailments in M.G., it was mentioned by the A.C.R.S. designate, N.E. Circle, that a study had been made in Jaipur Division of derailments which occurred in 1969, 1970 and 1971. Copy of such studies should be obtained and interesting features brought to the notice of the Commissioner of Railway Safety.

**SUBJECT NO. 12 :** *Minor observations need not form a part of the accident report for being printed. These may come as an Appendix.*

Proposed by : Commissioner of Railway Safety.

**All A.Cs.R.S.** A.Cs.R.S. have taken note of the views and agreed that minor items should be omitted from the body of the report and taken up separately, if necessary.

**SUBJECT NO. 13 :** *Extent of visibility to be ensured for permitting demanning of existing manned Level Crossings.*

Proposed by : Western Circle.

**Dy. CRS(G) ACRS/E, N, W, C Circles** It was agreed that the distance corresponding to 30 seconds travel at the maximum permissible speed should be adopted as the criterion. In regard to recommendation 115 of the RAIC-68 regarding the need to formulate guide lines, the matter may be taken up with the Railway Board. It may also be ascertained if there are any unmanned level crossings on the Rajdhani route as none should be permitted on routes where high speed trains are running.

SUBJECT No. 14 : (a) *Finalising the procedure for certification of speeds of new and old locomotives and other rolling stock.*

(b) *The use of Oscillation trials for such certification.*

Proposed by : Central Circle.

**S.O.** It is heartening that the A.C.R.S., Central Circle has taken interest to study the report of the National Transportation Safety Board and bring up the issue for consideration at the meeting. Earlier correspondence with the R.D.S.O. in this connection should be linked up and put up to C.R.S.

SUBJECT No. 15 : *Dispensation of Morse Telegraph on South Central Railway.*

Proposed by : Southern Circle.

**ACRS/S Circle** The proposal of the Railway may be agreed to. After sanctioning the proposal, the A.C.R.S. may advise the C.R.S. so that the Railway Board may be asked to initiate similar action on other railways.

SUBJECT No. 16 : *Other Items.*

**Dy. CRS(G)** (i) It was expressed by some A.Cs.R.S. that it would facilitate matters if F.A. &

C.A.O's were made the paymasters of the officers of the Commission. A.C.R.S. Western Circle mentioned that there was some earlier correspondence on this subject. This should be linked and put up by the Dy. C.R.S.(G) to C.R.S. to enable the issue being re-examined.

**All A.Cs.R.S.** (ii) Submission of detailed report under Section 83 the reports referred to are the reports in cyclostyled form submitted by the Railways to the Railway Board giving particulars of accidents including relief measures. The Railways may be advised to send copies of such reports to the A.C.R.S. and C.R.S. also where this is not the practice already.

**All A.Cs.RS** (iii) Attendance of D.S's at Statutory Inquiries—Board's orders in this connection already exist.

**All A.Cs.R.S.** (iv) Campaign and publicity jobs—The views of the C.R.S. have been communicated to the Railway Board and these are being endorsed to A.Cs.R.S. who should as far as, possible, associate themselves in such campaigns e.g. filming of level crossing accidents, etc., undertaken by the Railway Board and the Railway Administration.

The Conference closed with a vote of thanks to all concerned.



## APPENDIX I

### PROGRESSIVE USE OF HINDI IN COMMISSION OF RAILWAY SAFETY

The total number of employees in Group 'C' and above in the offices of Commissioner of Railway Safety is 79. Out of this 14 persons in Hindi, 2 in Hindi typing and 1 in Hindi Stenography have been trained.

The staff members have the option to work in Hindi or English as they like. However, since the work in the organisation is mostly of technical nature connected with the enquiries into Railway Accidents, inspection of railway lines, infringements of standard dimensions etc. the use of Hindi in noting and drafting is naturally limited. The circle offices located in Hindi speaking areas are equipped with Hindi typewriters and arrangements for replying in Hindi communications received in Hindi exist.

The Offices being too small, there is no separate Hindi staff nor is there a Hindi Officer exclusively for this Organisation. The translation and typing work is done in the Hindi Section of the Ministry itself.





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