

GOVERNMENT OF INDIA MINISTRY OF CIVIL AVIATION AND TOURISM (COMMISSION OF RAILWAY SAFETY)

RAILWAY ACCIDENT INVESTIGATION

REPORT

ON

DERAILMENT OF NO. 10 D DOWN PASSENGER TRAIN BETWEEN DARJEELING & GHUM STATIONS, N. F. RAILWAY ON 16TH JUNE, 1981.

SUMMARY

(I) Date

16.6-1981.

(2) Time

17.13 hours.

(3) Railway

Northeast Frontier Railway.

(4) Gauge

Narrow Gauge (0.61 m).

(5) Location

900 metres away from the Darjeeling Station.

(6) Nature of Accident

Darailment.

(7) Train involved

No. 10 D Down passenger.

(8) Consisting of

3 coaches hauled by a 'B' class locomotive No. 806 0-4-0 type.

(9) Speed

Over 22 Kmph.

(10) System of Operation

Main Line System.

(11) Number of tracks

One.

(12) Gradient

1 in 1000.

(13) Alignment

62° Curve.

(14) Weather

Clear.

(15) Visibility

Satisfactory,

(16) Cost of damage

Rs. 15,000

(17) Casualties

Killed-Nil.

Injured

Grievous-12.

Simple—22.

(18) Cause

By overturning of the coaches due to instability caused by a combination of centrifugal force and lateral accelerations while running on a curve at speeds, in excess of the maximum permissible on the section, in heavily and unevenly loaded condition

(19) Persons held responsible

Shri S.B. Kami, (*Since acquitted by the court) Driver of the train.

(20) Summary of important Recommendations

- The Railway Administration may ensure that the drivers of N.G. trains are educated in driving within permissible speed limits, and that Supervisory officials travel frequently on the footplate and monitor speeds.
- (2) The Railway Administration may fix a safe speed limit for 610 mm stock with passengers on the roof and side considering the track and rolling stock parameters, including their dynamic response characteristics like parasitic accelerations and rolling. Pending determination of this limit speed may be fixed at a sufficient low limit when travellers are present outside the coach on 610mm gauge.

- (3) The Railway Administration may issue suitable standing instructions for the guidance of the staff incharge of stations and trains to ensure that, in unusual circumstances like overcrowding of train, the concerned officers are consulted in goodtime to accommodate extra passengers by running another part of train or additional coaches.
- (4) It is unfortunate that the Working Time Table timings are not in accordance with the maximum speeds permissible. The Working Time Table may be reviewed and timings adjusted so that minimum running times are attainable without exceeding the maximum permissible limit of speed.
- (5) The speed limits may be related to Up and Down gradients instead of Up and Down trains as at present when an Up train can run down from Ghum to Darjeeling at a speed higher than what is permitted for a train going down from Ghum to Sukna.
- (6) Engineering officers inspect the track on this Section mostly by road. The Chief Engineer may review the practice and lay down guide lines for adequate inspection of track at appropriate levels.
- (7) The Railway Administration may expedite finalisation of provision for check rails on sharp curves on this Narrow Gauge Railway.

GOVERNMENT OF INDIA MINISTRY OF TOURISM & CIVIL AVIATION (COMMISSION OF RAILWAY SAFETY)

From: The Commissioner of Railway Safety,

North Eastern Circle,

Gorakhpur.

To

The Secretary to the Government fo India, Ministry of Tourism and Civil Aviation, Sardar Patel Bhawan, Parliament Street, New Delhi.

Through: The Chief Commissioner of Railway Safety, Lucknow.

SIR.

In accordance with Rule 4 of the Statutory Investigation into Railway Accidents Rules 1973, issued under Ministry's Notification No. RS. 13-T(8)/71 dated 19th April, 1973, I forward my Report on the accident to 10 D Down Passenger Train between Darjeeling and Ghum Stations on the New Jalpaiguri-Darjeeling Narrow (0.61 m) Gauge (the Darjeeling-Himalayan) Section in the Katihar Division of North-east Frontier Railway at about 17.13 hours on the 16th June, 1981. It is regretted that this Report could not be sent earlier, as I was engaged on other inquiries and Inspections.

1.2 Inspection and Inquiry

- (a) I was informed of the accident on the night of the 16th June at Mansi where I was attending the Statutory Inquiry held by the Chief Commissioner of Railway Safety into the accident to the 416 Down (Samastipur-Banmakhi) Passenger Train on 6-6-1981. I reached Darjeeling at noon on the 21st June and inspected the site of the accident alongwith the Chief Track Engineer, the Additional Chief Mechanical Engineer (Carriage and Wagon), and Deputy Chief Operating Superintendent (Safety) of the Railway and the Divisional Railway Manager and other Officers of the Katihar Division. Injured Passengers undergoing treatment at the Planter's Nursing Home and the Sadar Hospital at Darjeeling were visited on the 21st and 22nd June respectively.
- (b) A notification was published in the English and language news-papers of the area inviting member of the Public who had knowledge of the accident to either appear at the Inquiry conducted by me or communicate with me by post.
- (c) The Civil and Police authorities of the Darjeeling District of West Bengal were duly notified about the Inquiry which was commenced on the afternoon of the 21st June at Darjeeling and completed on the 24th. The evidence of some injured passengers undergoing treatment in the Sadar Hospital was recorded on the 22nd and that of the Guard of the train who was undergoing treatment in the Railway Hospital at New Jalpaiguri was recorded there on the evening of 24th June.
 - (d) The following Senior Officers of the North-East Frontier Railway were present at the Inquiry.

1. Shri A. Bhattacharya, . . . Chief Track Engineer.

2. Shri K.P. Vasu Nambisan . Additional Chief

Mechanial Engineer, (Carriage and Wagon).

3. Shri R.K. Thanga, . . Deputy Chief Operating

Superintendent (Safety)

(in the absence of the Chief Transportation Superintendent

(Safety).

4. Shri P.G. Patel . . Divisional Railway Manager,

Katihar

(on 21st June 1981).

Divisional Officers were called in as required.

Shri S.K. Taneja, Deputy Magistrate and Deputy Collector represented the District Magistrate, Darjeeling.

(e) The evidence of 35 persons, including 5 passengers of the affected train, was recorded during the Inquiry.

1.3 The Accident

At about 17.13 hours on the evening of 16th June, shortly after 10 D Down Passenger Train had lest Darjeeling Station for Ghum Station, the second and third passenger coaches (from the Engine) overturned to the right (on a lest hand curve) on to the Hill Cart Road which runs along side the track, at a location about 900 metres away from the Darjeeling Station Building. The weather was clear and visibility was satisfactory.

1.4 Casualties

I regret to report that, as a result of this accident, 12 passengers sustained grievous injuries and 22 simple injuries. Thirty one of the casualties needed hospitalisation.

II. RELIEF MEASURES

2.1 Intimation

The accident happened within one kilometre of Darjeeling Station in the town itself and intimation about it was forthwith conveyed on the telephone to the Fire Brigade and the Police by some people. The Station Master, Darjeeling received a memo from the Guard at 17.23 hours.

2.2 Medical Attention

The injured were picked up by the local people, the Police and the Fire Brigade who arrived on the scene within minutes after the accident. They were removed to the Planter's Nursing Home and the Sadar Hospital without delay. The first Railway Doctor to reach the site arrived at 21.00 hours from Tindharia Station (51 Kilometres down the Railway Line) and coordinated with doctors of the local hospitals in rendering proper medical attention to the injured.

2.3 Restoration of Traffic

The line was cleared for traffic by 03.25 hours, on the 17th June. No train was cancelled or terminated except the involved one. There was detention to Up Passenger Special, the last part of which arrived 11 hours 15 minutes late.

III. THE TRAIN

3.1 Composition and marshalling order

The train was hauled by a B class locomotive No. 806, 040 type, manufactured in England in 1928. It is 5.9 metres long, weights 14 Tonnes and is provided with manually operated brakes. There is no speed indicator or recorder.

The trailing load consisted of 3 coaches as indicated below:-

SL No.	Coach No.	Body and Type	Year Built	Return date
1.	S59	Old	1915	Jan. 82
2.	S102	Modified Type	1958	Jul. 81
3:	SY—97	Modified Type	1958	Nov. 81

The coaches are provided with brakes operated manually by a brakesman standing on a platform at the rear end of each coach. The seating capacity was 32 persons for the first coach, 31 for the second and 22 for the third. 85 tickets were reported sold to passengers on the train, but at the time of accident it was crowded and carried many more passengers, on account of motor transport being on strike and off the roads that day at Darjeeling.

3.2 Damage and disposition

(a) Locomotive

There was no damage to the locomotive which remained on rails.

(b) Coaches

The first coach remained on the track with the rear trollies derailed and suffered no damage except that the rear draw bar was twisted towards the right side. The second and third coaches over turned turned towards the right. They were put upright by the local people before arrival of the Railway Officers and Supervisory Staff. The body work of these coaches was damaged. There was some distortion of the underframe of the third coach and damage to brake gear of both the coaches.

Damage to the track was not significant, being confined to 7 sleepers with broken ends. There was no other damage to any other asset.

The cost of damage to the coaches has been estimated by the Railway Administration to be about Rs. 15.000.

IV. LOCAL CONDITIONS

4.1 The Site and the Section

- (a) The site of the accident is 900 metres from the Darjeeling Station building towards Ghum Station. It is on a left hand curve of 62 degrees and on an Up-gradients of 1 in 1000, approached from Darjeeling on a down gradients of 1 in 667 proceeded by a down gradient of 1 in 124. An up gradient of 1 in 51 starts immediately ahead of the site of accident, with an up-gradient 1 in 28 further ahead.
- (b) The formation is partly in cutting, the cutting face being on the left. On the right, the Hill Cart Road runs alongside the track and level with it. At the site of accident there are buildings on the right side of the road.
- (c) The track is of 0.61 metre gauge and consists of 50 lbs rails 11.9 metres long on Salwood sleepers (density $N \div 3$). The ballast is cinder and locally available rocky and sandy material.
- (d) The maximum permissible speed on this Hill Railway between Sukna Station and Darjeeling is 15 KMPH for trains in the Down directions (from Darjeeling to New Jalpaiguri) and 18 KMPH for train in the Up direction, B class locomotive hauling Narrow Gauge Second class Bogie coaches type S&SY.

4.2 System of Working and Signalling

Trains are worked on the Darjeeling Himalayan Railway from Sukna Station to Darjeeling (70 kms.) on the Main Line System which is a combination of the Pilot Guard and Following Trains Systems. Station are non-interlocked. No fixed signals have been provided. Station limits are indicated by Station Limit Boards. Line clear is obtained through Morse Telegraph instruments. The section is controlled from New Jalpaiguri.

V. SUMMARY OF EVIDENCE

5.1 Shri S. B. Kami, Driver of the train stated that on 16-6-81, he was booked to work 9 D Up, 10 D Down with engine No. 806 B. As 10 D Down was overcrowded he wanted to issue a memo (for an assisting engine) at 16.45 hours to the ASM on duty who was however, not found. On the instructions of the Guard of 10 D Down, he then started the train at normal speed. On arrival at the site of accident, he felt a bad jerk and stopped the train, on hearing hue and cry from the passers by as well as passengers. He was then dragged out of the engine by the mob but was rescued by the Police and taken to the Police Station.

Answering questions, he stated that the weather was clear and visibility good. He proceeded at a speed of 6 to 8 kms. per hour according to his judgement, as no speedometer was fitted on the engine. There were passengers standing inside the coaches, on the sole bars of the coaches on the road side and the roofs. He had asked for a banking engine because he thought he will not be able to negotiate the gradient on the way to Ghum on account of the large number of passengers, who were on the train because of the motor strike at Darjeeling. Because of the extra load, he opened up the regulator a little in advance of the usual location for such opening as he thought that without the additional speed it may not be possible to negotiate the rising gradient.

5.2 Shri Mohan Prasad Kami, Fireman 'B' stated that when he came on the engine to the Platform, it was crowded abnormally. Though the Driver asked for banking engine it was not made available. He was busy with the firing. He saw that the coaches in the rear had capsized when he turned back to put on the injector ahead of the approaching gradient. He put on the hand brake immediately.

Answering questions, he stated that the train was running at a usual speed when the engine stopped as soon as he applied the brake,

5.3 Shri Babu Lal Thatal, Fireman 'C' stated that the train started 10 minutes late from Darjeeling and that it was running at normal speed. He was busy in the coal tender, when he felt a sudden jerk and saw that 2 coaches in the rear had derailed and capsized.

Answering questions he stated that, in his estimate the speed was 7 to 9 Kmph.

5.4 Shri S. B. Lamgaday, Jamadar stated that he was booked to work as Jamadar for 10 D Down on 16-6-81. The train was over-crowded and started from Darjeeling with normal speed. He found that a number of persons were jumping on to the train, holding on to the windows, though he tried to prevent them. He felt a sudden jerk and found that his coach was derailed. He was thrown out from the coach and was encircled by the public from whom he was rescued by the Civil Police.

Answering questions, he stated that there was no nominated place for him on the train. He travelled alongwith the Guard in the last coach. He felt the coach moving from side to side for about 30 yards before capsizing to the right side. Though there were no passengers on the roof when the train started from Darjeeling, many people got on to the train when it was on the run. He was aware that according to rules roof travellers are to be detrained at the station.

5.5 Shri Birbahadur Lama, Brakesman stated that he took his position in front of the engine for sanding while negotiating gradient. He had noticed a large number of persons jumping on to the train, some of them hanging on the doors and windows. The train stopped with a bad jolt when he got down and found that 2 coaches had derailed.

Answering questions, he stated that when the train started there were no passengers on the roof but on the way a lot of people got on to the roof. People do travel on roofs at times on this section.

- 5.6 Shri Sheshmani Pradhan, Brakesman stated that he was booked to man the foot brake of coach No. SY 102. The train was overcrowded and started a few minutes late. On the run a number of people attempted to get on to the train. After few minutes, he experienced a great jolt and was thrown out. He found that 2 rear coaches had derailed and he escaped from the agitated public. Answering questions he stated that passengers were travelling on the roof of the coaches and that he had never seen such crowds on the train before.
- 5.7 Shri R. B. Bharati, Brakesman stated that he was booked to work on the last coach No. SY/97. There was a heavy crowd due to Darjeeling Bandh. Though he made efforts to stop it, several people were attempting to get on to the train even when it was in motion. He felt a severe jerk and saw that his coach was toppling. He then jumped from it to save himself.

Answering questions, he stated that the coaches were jam packed and all space on the roofs was also occupied. Some people were standing on the roof while others were sitting. There were some people standing on the outside on the road side.

- 5.8 Shri D. B. Gurung, Brakesman, stated that he was booked to work on coach No. S/59. The train started from Darjeeling overcrowded due to the hartal. He felt a severe jerk when he looked back and saw that the last 2 coaches were toppling. Answering questions, he stated that on his coach (the first one) there were people hanging on the outside and on the roofs. He also said that he felt the coach lurching from side to side after he passed the stream (bridge No. 544).
- 5.9 Shri Bharat Nathani, Student, stated that he came to Darjeeling by a local shuttle reaching about 10.30 hours. He, alongwith a party of 5 others, was travelling in the return train 10 D Down sitting in the rear compartment occupying it at about 4.30 P.M. The compartment became very crowded by the time the train started at about 5.15 PM. His coach capsized to the right. The local people come forward and put the coach back on the track. Two persons of his party who were injured were taken to the Sadar Hospital in the Ambulance immediately.

Answering questions he stated, he saw that the train was going too fast for the area. The coach was shaking from side to side before it tilted, promoting his cousin to tell him "today we will fall somewhere".

5.10 Shri Dhan Bahadur Tamang, Constable stated that he was on duty at the station from 6 AM on the date of the accident. At the time of departure of the train there was a heavy crowd of passengers on account of strike of motor vehicles. There were people on the roofs of all the coaches and also hanging on the right side of the coach Though the police tried to get the people down from the roofs, they were not successful. About 15 minutes after the train left the station, a phone message was received that it had met with an accident. By the time the witness reached the site of accident, the coaches had been put upright. The injured persons were sent to hospital by available motor vehicles. Answering questions he stated that the engine driver was escorted to a police vehicle which took him to the Police Station and that the driver was trightened but showed no signs of intoxication.

5.11 Shri K. B. Lama, Town sub-inspector stated that he was on Mobile Van duty and was proceeding towards Hill Cart Road when he heard some "halla" that the train had met with an accident. He reached the site at about 5.20 PM to 5.25 PM and saw that some people were putting the capsized coaches back to the upright position. Many of the injured passengers were already removed to the hospital in some motor vehicles. Seeing the angry crowd surrounding the engine and trying to assault the driver, he called on the Driver to come out. When the Driver refused to come down from the engine he got him down forcibly and made the Head Constable take him to the Police Station.

Answering questions, he stated that he heard the public stating that the Driver had overspeeded the train. He did not find any injured person inside or under the coaches.

- 5.12 Shri S.B. Thakuri, Officer Incharge, Sadar Police Station Darjeeling, stated that he was attending a public meeting on the afternoon of 16-6-1981 when at about 17.30 hours he received information about the accident. On reaching the spot he found that 2 bogies of the train were derailed and several passengers injured. The public, Police and Fire brigade had conducted rescue operations and sent the injured passengers to hospital. He rushed to the Sadar Hospital to see whether the injured persons were treated properly and to maintain law and order.
- 5.13 Shri Dhan Kumar Tamang, Head Constable stated that he was on special duty at Darjeeling in connection with the Motor Strike. There was an unusually large crowd of passengers who were trying to board the train. Many people were travelling on the roof of the 2nd and 3rd coaches but not on the roof of first coach. There were also people hanging on the outside (on the right side). After about 5 minutes after the departure of the train, he received a message through a motor vehicle that the train has met with an accident. He immediately rushed to the site and found that the coaches had been put back. There were 3 or 4 injured persons whom he put into the available motor vehicles and then he escorted the Engine Driver who had been surrounded by the angry mob into the police vehicle.

Answering questions, he stated that the Driver did not appear to be drunk. He had asked to Fireman about the cause leading to the accident and was told that since there was a heavy overload on the train and to negotiate the upgradient, the driver had picked up some speed and that the accident must have taken place on account of overloading and somewhat higher speed.

- 5.14 Shri R.P. Sharma, Caretaker, Railway Rest House, Darjeeling, stated that he was travelling by 10D Down in the 1st coach. After 5 minutes of leaving, Darjeeling the train suddenly stoppad. When he got down on the left side, he to und that the last 2 coaches were leaning towards the road side. He helped in the rescue operations.
- 5.15 Shri P.B. Lohar, Sub-Inspector West Bengal, Fire Service, stated that at about 5.20 P.M. he received a telephone message from the Forest Office, which is near the place of occurrence of the accident. On arrival at the place of occurrence, seeing that many passengers had received injuries, he started to rescue and remove them to the Government Hospital. After admitting the injured passengers in the Hospital, the witness came back to the place of occurrence and found that people were trying to assault the Driver who was taken out with the help of the Police.
- ler coming to Darjeeling by bus and going back by 10D Down. On the day of the accident there was heavy crowd and the train started at 17.10 hours and proceeded with a high speed which has never been experienced by him during last 12 years. He saw the people, shouting at the driver not to run the train at such a high speed. When the train derailed, he became unconscious and when he gained consciousness the coaches had been put back.

Answering questions, he stated that it normally takes 5 minutes for the train to reach DFO's office (the site of accident) from the station. On the day of the accident, he did not observe the time taken by the Driver. The Passengers Association had once complained about drunkenness on the part of the driver to the Railway authorities, but on the day of the accident, the driver was not drunk.

- 5.17 Shri Naraingiri S/o Shri Ram Lal Giri, Passenger stated that he travelled by the last coach of the train standing on the right side near the door. The train picked up unusual high speed. Subsequently the coaches tilted towards the right.
- 5.18 Shri D.P. Lama, Passenger stated that he got into the rear compartment of 10-D Down. There were 22 to 23 people in the compartment. The train was heavily crowded that day. He was standing near the door on the right hand side. The train started at 5.10 PM and when it reached near the DFO's office he felt the compartment derailing and then it tilted to the right hand side. He was thrown out on the right with about 10 people on the top and his foot was caught under the coach. He wanted to emphasise that the train was going unusually fast,

5.19 Shri Manwendra Singh, Asstt. Shop Superintendent, Tindharia stated that he lest with the breakdown freet at 18.25 hours after receiving a memo from Station Master, Tindharia at about 17.25 hours. On reaching the site he found a large crowd. After obtaining Police clearance at about 01.15 hours on 17-6-81, the coaches were rerailed at about 3.15 hours and track fitness were given at about 3.20.

Answering questions, he stated that breakdown fleet consists of 2 motor vehicles, carrying equipment and material for breakdown operations and is based at Tindharia.

5.20 Shri A.K. Banerjee, ASM 'B' Darjeeling, stated that on 16-6-81, he was on duty from 13.00 hours at Darjeeling. Line clear was made over to Driver of 10-D Down at 16.56 hours but the Driver did not start till 17.10 hours. At 17.23 hours a message was received from the Guard stating that the train had got involved in an accident. Witness thereafter called the breakdown, Ambulance, Fire Brigade etc. The track was certified fit at 23.00 hours and the section was clear at 3.25. He performed duties upto 06.00 hours on 17.6.1981.

Answering questions, witness stated that the weather was clear though cloudy and visibility was normal. 74 tickets were sold for the train from the window and 11 more (tram way tickets) were sold by the Guard. The train was crowded while starting and in his estimation about 150 passengers were on the train. When the train started all passengers were outside but people jump up on to the train in between the stations. He did not notice anything abnormal, when the train started and proceeded. The driver did not meet him with a memo asking for an assisting Engine before he started the train. There is a practice of assisting down train going from Dariceling to Ghum when the load is 4 coaches or when the Driver complains that the Engine is not able to haul the loads. The Assisting Engine is sent out as a last part and the line clear is issued to its Driver. On the 16th, even though he saw the rush of passengers, he could not attach an extra coach because in that case an assisting engine would have been necessary behind the train. On that day though there were engines available there was no Driver available. He did not consider it necessary to consult the Central Control or the Area Officer.

5.21 Shri S.R. Ponniah, AME, stated that he was informed at about 19.00 hours about the accident. He rushed to the site reaching it at 20.45 hours. There was a huge crowd. The breakdown fleet arrived after his arrival. He went to the Police Station where the Driver and the Jamadar were kept locked up. The Driver appeared to be sober and he got them bailed out. He found the loco on the track.

Answering questions, he stated that the maximum permissible speed is 20 kmph for Up trains and 16 kmph for Down trains. He was not aware of the maximum speed that the locomotive can obtain with a load of 3 passenger coaches.

5.22 Shri Jagdev Thakur, (non-passenger witness) stated that he was sitting outside his shop at about 17.10 hours. He saw the Down train coming. It was overcrowded on the outside as well as on the roof. He saw the last coach leaving the rail. It derailed by one wheel and dragged about 30' when it overturned along the 2nd coach.

Answering questions, he stated that the train was coming at a higher speed than usual.

5.23 Shri Mantshering Lama (non-passenger witness) stated that he was sitting outside his house when the train came. It was running at somewhat higher than usual speed and he had thought to himself that it will meet with an accident. The train passed in front of his house with the last coach rolling. When the last coach was in front of the Nong Sang Restaurant, the wheels of the rear trolly came off the rail and the coach capsized in front of the letter box. He rushed to the spot and put the coaches right alongwith other people and talked to the Superintendent of Police on telephone.

Answering questions he stated that he found people on the roof of the 2nd and 3rd coaches but not on the roof of the 1st coach. According to him 4 to 5 people were hanging on the first coach but no one was hanging on the side of the 2nd and 3rd coach.

5.24 Shri J.N. Das, HTXR, Tindharia stated that on receiving the message at 18.10 hours he immediately proceeded with the "Break Down Fleet" and reached the site of accident at 21.00 hours. He found four wheels of the rear trolly of coach No. S—59 and all wheels of front trolly of coach No. S—102 derailed and all wheels of caoch No. SY—97 out of the track with body panel below window completely broken. Restoration work was started at 1.15 hours after clearance by the Police authorities and completed at 3.15 hours. The train left the site at 3.25 hours.

Answering questions he stated that the primary maintenance of rakes of 9 D and 10 D trains is done at Darjeeling and the work is being looked after by carriage fitter grade I, Darjeeling as the regular TXR/Darjeeling was on sick leave for one month. The joint measurements were recorded by him alongwith Permanent way Inspector, Kurseong.

5.25 Shri C. B. Rai (not a passenger) stated that when he was standing on the road near the Nong Sang Restaurant he noticed the Down train to Ghuni approaching. The roofs of the socond and third coach were occupied by passengers but there was no one on the roof of 1st coach. Suddenly he heard some loud noise and saw the last coach had overturned and capsized. The coach fell flat on its side and was dragged for about 2 metres when the second coach also tilted. The train stopped immediately after the second coach capsized.

He rushed to the capsized coaches and with the help of some boys, put the coaches up right and pulled out the injured people.

Answering questions, he stated that the train was running at unusually high speed and the wobbling was unusual.

- 5.26 Shri S.K. Taneza, Dy. Magistrate stated that when he came to know about the accident, he went to the hospital and saw that the medical staff was rendering aid to the injured passengers. He left the hospital at 17.45 hours and arrived at the site of accident. He found the bogies were standing upright. Six or seven sleepers had clear marking of wheels of the bogies having passed over them. As per his opinion the coaches left the rails dragged for some distance due to the momentum of the train. Theereafter the last 2 coaches lost their balance and fell down. On his return to the hospital he found 29 persons admitted in Sadar Hospital, out of which 5 persons were said to be serious as per. Chief Medical Officer (Health). Thereafter he went to the Planter's Nursing Home where one boy was admitted.
- 5,27 Dr. P.K. Chandra, ADMO/Kurseong stated that he received a telegram from Station Master/Kurseong at 18.30 hours. At 18.45 hours he started with first aid box by military jeep upto Ghum and then by police Jeep to site of accident and reached there at 21.45 hours. On reaching the site, he found that there was no casualty on the spot as all patients had already been taken to Sadar Hospital, Darjeeling. He alongwith Divisional Medical Officer, New Jalpaiguri and Area Officer went to the residence of Divisional Medical Officer, Sadar Hospital and discussed with him about the injured persons. Divisional Medical Officer Sadar Hospital could not give details about the nature of injuries and advised him to come in the next morning.

Answering questions, he stated that in all 34 persons were injured in this accident, 12 persons with grievous injuries and 22 with simple ones. He did not know the number of persons who sustained trivial injuries.

5.28 Shri N.B. Goshain, Maintenance incharge stated that he was on duty at the Locoshed at Darjeeling from 12.00 hours to 21.00 hours on 16.6.81. At the time of departure of 10 D Down passenger Train, he was standing at the Locoshed. He saw huge number of passengers on the platform and the train was over crowded. The train left Darjeeling at 17.00 hours and after about 30 minutes he heard that 10 D Down had derailed at km.78/5-6. He went to the site of accident and after examination he found the engine alright in all respects. He deputed Fireman 'B' to look after the safety of engine. He found that 2 rear coaches of the train had derailed by all wheels and one coach which was attached to engine was derailed by four rear wheels only, the wheels of the front trolly remaining on the track.

Answering ouestions, he stated that one shunting engine was available in the Locoshed at the time of departure of 10 D Down. The driver of 10 D Down neither gave him a memo nor told him anything about an assisting engine.

5.29 Shri N. Biswas, Area Officer, New Jalpaiguri stated that at about 18.10 hours, he received information about the accident to 10 D Down between Darjeeling and Ghum Stations and immediately informed Divisional Railway Manager, Katihar. He then hired a taxi and arranged a police jeep and reached the site of accident at 23.00 hours along with DMO/New Jalpaiguri, AEN/Siliguri and Assistant Commercial Superintendent, New Jalpaiguri, when they found that all injured passengers had already been shifted to Hospitals. All the coaches of 10 D Down were noticed to be in upright position. The first coach from engine was found derailed by all wheels of rear trolly and the other 2 coaches were found having all wheels of the side rails and tilted on the right side i.e. towards the road. He, alongwith Divisional Medical officer and assistant Commercial Superintendent went to Sader Hospital to take particulars of the injured passengers. Restoration work was started at about 01.10 hours after obtaining clearance from police authourities and was completed at 03.15 hours. On 17.6.81, he again went to Sader Hospital alongwith Divisional Medical officer, New Jalpaiguri and took the particulars of injured. Ex-gratia payment was made @ Rs.750/— to 8 grievously injured and @ 250/.— to 26 minor injured passengers. Trains are worked on the Main Line System which is a combination of pilot Guard and Following Trains System as appended in General and Subsidiary Rules of Railway. Stations are all non-interlocked and non-key locked, there are no Semaphore Signals, Line Clear is obtained for trains through Morse Telegraph instruments. Means of communications provided are control phone connected with the New Jalpaiguri Control office and Administrative Trunk Telephone. The pointsman on duty pilots trains by Hand signals from the Station Limit Boards.

Answering questions, he stated that the maximum permissible speed on Sukna-Darjeeling Section is 20 kmph for Up trains and 16 kmph for Down trains and the average booked speed is 18 kmph for Up trains and 15 kmph for Down trains.

According to the Train Registers at Darjeeling and Ghum, the minimum time taken by a non-stop train in May 81 is 30 minutes to proceed from Darjeeling to Ghum.

There is no regular ticket checking by Travelling Ticket Examiner; only occasional checks by Head-quarter Squads are conducted. The road strike on 16.6.81, resulted in heavy rush in the train. He did anticipate heavy rush in 10 D Down of 16.6.1981, but this train is not a very crowded train and he thought that the additional passengers could be accommodated as standing passengers. It would have been possible for him to arrange and extra part for 10 D Down to only if definite information about unusual rush was given to him 6 to 7 hours in advance.

- 5.30 Shri S.B. Dutta Roy, Loco Inspector, New Jalpaiguri stated that he had no comments about the accident. Answering questions he stated that his duties include supervision of maintenance of the Locomotives in the sheds and he is also supposed to ride on the foot plate to monitor the performance of the Loco staff. He has joined this section on 9-5-1981 and had no occasion to examine the performance of the driver who was driving engine No. 806-B on 16-6-1981.
- 5.31 Shri Samaresh Roy, Permanent Way Inspector, Tindharia stated that after hearing about the accident of 10-D Down, he proceeded to the site of accident by breakdown (BD) fleet, leaving Tindharia at 18.25 hours, and arrived at stite of accident at 21.00 hours alongwith the BD incharge Shri C.L. Prasad. On reaching the site, he found the track protected and injured persons shifted to hospital. He found wheel dropping marks on 8 sleepers and almost 2 parallel marks on the road. The tilted coaches had already been lifted and brought to upright position by the public before his arrival. He along with Shri J.N. Dass, Head Trains Examiner recorded track particulars etc. Restoration work was started at 01.15 hours of 17-6-1981 after getting clearance from Police authorities and completed by 03.15 hours. Track fit certificate was issued at 03.20 hours and the train involved in the accident passed at a restricted speed of 5 kmph at 03.21 hours.

Answering questions, he stated that joint measurements under load could not be taken as there was not enough space below the under-frame of the locomotive and coaches. But the cross levels were meae sured in between the couplings of a special rake at 5 stations on 23-6-1981 and only slight differences have been noticed between the measurement recorded on floating track and under load in regard to cross levels. During his period, he has attended to six derailments on this section and these derailments were due to fall of boulders or slips from Hill side. Clear drop marks on hard wood sleepers were visible during these derailments.

5.32 Shri B.N. Srivastava, Assistant Engineer, Siliguri Junction stated that on receiving information at 19.30 hours of 16-6-1981 about the accident of 10-D Down, he left for site and reached there at 23.00 hours. The accident took place between kms 78/4-6 and he noticed no mounting mark on the rail, but there were dent marks on a stretch of 10 sleepers and there were two distinct marks on the road. These two marks were running parallel to each other and continued upto a distance of 36'-3". He observed that the wheels of engine were on rail, but the 4 wheels of the rear trolly of coach No. S/59 which was attached to the engine were not on the rail. The wheels of the front trolly of coach No. S/102 were not on rail but were on the sleepers. All wheels of both the trollies of coach No. S/97, were not on rails, but on sleepers. He learnt from the Guard that Coach No. S/67 and S/102 were capsized on road and the local public has lifted them and brought on wheels to rescue the passengers. The track measurement of the rear portion was done before his arrival. Restoration work was started at 1.15 hours and completed at 3.15 hours. Track fit certificate was issued at 3.20 hours and train passed at the speed of 5 kmph. In his opinion the coaches lost their balance due to over crowding and overturned.

The sleepers density on this section is N+2 for straight and N+3 for curves. The maximum spacing of sleepers at the site of accident is 85 cms. He last inspected the location where the derailment took place on 11-5-1981 by trolly and on 10-6-81 by road. The Gang strength on the section is 1:1:8 plus 1 leave reserve for a length of 6 kms.

Answering question, he stated that about 5 derailments take place in a year and these derailments are caused by obstruction e.g. boulders on the track. The Engines have no proper guards (like cow catcher) Slack packing and rectification of Gauge were carried out on 11-6-1-81 and through packing was done on 1-2-1981 at this location.

5.33 Shri S.B. Chakraborthy, Divisional Engineer-I, Katihar stated that at about 19.15 hours he got information from Divisional Railway Manager, Katihar about the accident and rushed to the site of accident by the first available train from Katihar and reached at 11.30 hours on 17-6-1981. By that time, the site was cleared and train running resumed. He inspected the site of accident at kms. 78/4-6

then he went to Sadar Hospital and the Planter's Hospital at Darjeeling with Divisional Railway Manager and Divisional Mechanical Engineer to see injured persons.

Answering questions, he stated that he is working in this section since the last 3 years and he inspects some parts of the section once in a month. He however, could not say as to how many times he inspected the whole section during the last 3 years, as no charts are being maintained for Narrow Gauge section. He has not done brake van inspection from New Jalpaiguri to Darjeeling during the last 12 months, as he remains busy with inspection of Broad Gauge and Meter Gauge main and trunk lines and other works. It is hardly possible for him to adhere to any schedule for the Narrow Gauge. He visits the section by road and on foot as the track and road are running parallel and very close. He drops down at places and walks on the track for a certain distance on every occasion and there by keeps control on the maintenance of the track. He had also done trailing window inspection twice; once from Siliguri to Darjeeling and on the other occasion from Darjeeling to Siliguri. He did not verify the maximum speed attained by the train but he verified the timings th train was taking to cover each section.

During his tanure, 6 to 7 derailments have taken place due to obstruction or due to road vehicles dashing, against the train, but no derailment occurred on account of defect in track.

5.34 Shri M.N. Roy, Guard, was booked by Up Special upto Kurseong, where he stayed the night and then was booked by Up 9-D Ex-Kurscong to Darjeeling on 16-6-1981. He arrived at Darjeeling at 10.40 hours. Then he was booked to work 10-D Down. He arrived at station at 16.30 hours and collected the vehicle Guidance as well as the tram way tickets from the station. He found that a Ladies compartment in the last coach was allotted for him instead of a brake van. On being informed by the Driver that there were too many passengers in the train and an assisting engine is needed, he went to SM's office to request for the same. But he was intimated by the Station Master that he (the Station Master) can do nothing. He then advised the driver to start the train. Normally the train is composed of 4 coaches whereas the composition of 10-D Down on that day was only 3 coaches. There were people standing in all compartments and some people had even entered his compartment but there were no passengers on the roof or at the sides of the train. After the train passed the loco shed, some people jumped on the train and even entered his compartment also. After his compartment passed the bridge on the left hand curve. his compartment started dancing and then he went to the right side to find the cause, he, alongwith the compartment fell down to the right. The compartment dragged in a fallen condition for a short distance and came to a stop. He then jumped out on to the P.W.D. road through the left hand door. He saw that the two last coaches had fallen to the right and the first coach derailed by four wheels. A big crowd surrounded the Driver and started to beat him. In the meantime, he located a telephone and informed to The capsized coaches were lifted and the injured were being rescued by the local people. While he was sending a memo to the station, the Police and Fire Brigade had arrived. He then went by an Ambulance van to inform the Station Master and others and engaged himself in rescue operation on his return back to the site.

Answering questions, he stated that the train was fully packed but he did not pay any attention to see whether passengers were travelling on the roof as he was busy in writing tram way tickets. He did not feel any necessity to ask for an additional coach as there were occasions like the Gold Cup Tournaments and 15th August when trains ran fully packed.

He also could not say about the unusual running of the train as he could not look out through the window, but he heard the engine making more noise than on the occasions with normal load. He did not notice the time when the accident took place but when he looked at his watch it was 17.13 hours. The practice of sending light engine as an additional part of the train which is over loaded with passengers is very rare.

VI. TESTS AND OBSERVATIONS

- 6.1 I inspected the track at the site of the accident on the 21st June and again on the 23rd when cross levels were measured under load. On the 22nd I had inspected the affected coaches including their bogies, over the pit at Darjeeling when measurements of the parameters of these coaches were also recorded jointly by the Divisional Engineer and the Divisional Mechanical Engineer.
- (a) The observations recorded by the officials of the Railway immediately after the accident were also persued. These and the evidence recorded during the enquiry added up to the following position.

6.2 Track

There were no mounting marks on the rails or wheel dropping marks in between the rails. The fitttings also had no marks. The ends of sleepers on the outside of the outer rail were dented. There was a continuous indentation on the (black topped) road surface indicating that something was dragged for a length of about ten metres. Versine variation in rear of the point of derailment was of the order of 6 mm (on 4.72 m chord), superelevation varied by 3 mm and gauge was slack by 8 mm. Cant provided varied from 36 mm to 41 mm against 43 mm required for a speed of 16 kmph on the curve of 62°. Measurements of cross level under load on the 23rd did not indicate any significant difference from those recorded just after the accident.

6.3 Coaches

The first coach was an old one, and the following two coaches, a modified, wider, type of later build. The roof of the first coach was curved steeper and was covered with a sticky compound when seen on the 23rd, making it unlikely that there were passengers on the roof. The undergear of the coaches did not exhibit any defect which could have led or contributed to a derailment. The bodies of the two rear coaches had substantial damages as a result of the accident.

6.4 Speed of trains on the Section

In the Working Time Table of the Railway (No. 44), the maximum permissible speed between Sukna and Darjeeling is indicated as 20 kmph for Up trains and 16 kmph for Down trains (Down trains run from Darjeeling to Sukna). The speeds, as indicated, relate to direction and not to gradients, (there is an Up gradient between Darjeeling and Ghum stations, in the Down direction). From the statements of actual time taken by trains (scheduled to run without stops) for a section in the Down direction (Sonada—Tung) furnished by the Railway, it was seen that most of the trains cover the section in 30 minutes (one train had done so in 27 minutes). The minimum running time, according to the Working Time Table is 28 minutes for a distance of 8.05 kms. (an average speed of 17.25 kmph) and the booked time 30 minutes (an average speed of 16.10 kmph). The average booked speed is, thus, marginally higher than the maximum permissible speed (16 kmph) and it is clear that trains should be running on the down gradients at speeds significantly higher than 16 kmph to maintain this average speed over a section. In the absence of speedometers, drivers are not in a position to judge speeds accurately. There appears to be no serious effort on the part of the Inspectors and Officers of the Mechanical Department to monitor speeds and to counsel or discipline drivers needing such treatment.

- 6.5 On the 23rd June, a trial run was made from Darjeeling Station to the site of accident with engine No. 806 B, the trailing load consisting of 4 coaches (the driver was instructed to drive as usual). The distance (from km. 79/3-4 to km. 78/4-6) was covered in 3 minutes. The maximum speed attained (approaching the site of accident) was computed to be 19.44 kms. per hour.
- 6.6 A complaint of being drunk on duty had been made against the driver (Shri S. B. Kami) by the Secretary. Local Train Passenger Association on 14th June. 1979, but evidence (by the Police) is that, at the time of the accident, the driver was not drunk.

6.7 Stability of the coaches

At my instance, the Railway Administration got the stability of a coach of the type affected, with passengers in the coach, on the roof and on one side the outside of the curve moving on a curve as at the site of the accident, investigated by the Research, Design and Standards Organisation of the Ministry of Railways. Their observations are that the coach is stable under these conditions upto speeds of about 30 kmph. However, if it is assumed that parasitic lateral accelerations give rise to equivalent lateral forces, the coach has a tendency to overturn, if the values of such acceleration are 0.184 g. at a speed of 15 kmph and 0.135 g. at 20 kmph (this factor is not usually considered in their design calculations). They have also stated that, though oscillation trials have not been carried out on coaching or goods stock on the Narrow Gauge, trials on the Kalka—Simla Section indicated lateral accelerations upto 0.19 g. on the new railbus and 0.34 g. on the old railcar, at speeds upto 24 kmph on curved track, in addition to the steady accelerations. In general, such accelerations increase with speed.

VII. DISCUSSION

7.1 Time of accident

According to the evidence, the train left Darjeeling at 17.10 hours and the accident took place immediately thereafter. When the Guard looked at his watch after the accident, it was 17.13 hours. During the trial conducted by me it took 3 minutes for a train to reach the site of accident. The time of the accident is therefore between 17.12 and 17.13 hours.

7.2 Speed of the train at the time of the accident

Though the driver had stated that he was driving at a speed of eight kms per hour, his judgement appears to be incorrect. The train covered a distance of 900 metres within a period of less than three minutes before it met with the accident, the average speed being 21.6 Kmph for a time of 2.5 minutes.

Allowing for acceleration after starting, the maximum speed attained should have been considerably higher, compared to the maximum permissible speed of 16 Kmph. During the trial conducted by me, a train which was supposed to be driven in the usual manner attained, on the down gradient, a speed of more than 19 Kmph.

The driver has stated that he opened up the throttle some distance before the site of accident in order to be able to negotiate the gradient with a heavier-than-usual load, thus increasing the speed (on the down gradient). Many witnesses (passengers and by-standers) have stated that the train was going unusually fast that day, and that the rear coach was wobbling.

Keeping in view these factors, I determine the speed at the time of the accident to be in excess of 22 kmph.

7.3 Cause of accident

Possibilities which could cause an accident of this nature include derailment due to defect of track and or rolling stock, sabotage, obstruction, or instability. According to the evidence and observations, the track did not exhibit any indication of derailment due to a wheel flange mounting the rail or dropping in between rails or of any tempering, neither the track nor coaching stock had defects to which a derailment could be attributed. There was also no obstruction on the track. The remaining possibility is that of overturning due to instability while negotiating the curve with excessive and uneven load at speed. There is no doubt that the train was unusually overcrowded that day with passengers travelling on the roofs and hanging on one side. Roof travelling was most probably confined to the Second and Third coaches which were also wider than the first coach.

As stated earlier (para 7.2), the train is estimated to have been travelling at a speed in excess of 22 Kmph. At this speed, the coach has a tendency to overturn if lateral forces equivalent to a lateral acceleration of 0.135 g develop. The last coach, being comparatively unrestrained, apparently generated lateral forces of this order (as indicated by lurches and wobbling) causing it to tilt, come off the rails and capsize, pulling the second coach also away. At lower speeds, the lateral disturbances would have to be much more to cause such loss of stability, whereas, in fact, they will be significantly less. The probability of overturning at 15 kmph would have been less. The primary reason for the accident is, thus, excessive speed, which was higher than what was safe for the loading conditions obtaining.

VIII. CONCLUSION

(a) Cause

Considering the evidence at my disposal, I have arrived at the conclusion that the derailment of 10 D Down Passenger between Darjeeling and Ghum Stations on the Darjeeling—New Jalpaiguri Narrow Gauge Section of the Northeast East Frontier Railway at about 17.13 hours on the 16th June, 1981 was brought about by overturning of the coaches due to instability caused by a combination of centrifugal force and lateral acceleration while running on a curve at speeds, in excess of the maximum permissible on the section, in heavily and unevenly loaded condition.

(b) Responsibility

I hold Shri S.B. Kami, Driver, responsible for the accident since acquitted by the court. He violated G.R. 89(a) and (b).

(c) Service Record

Shri Santa Bir Kami, son of Shri Manbir Kami was born on 25-2-1928 and was appointed Engine Cleaner on 25-2-1949, redesignated as Fireman 'C' with effect from 11-7-1959, promoted as Shunter on 14-3-1976, as Driver 'C' on 25-3-1978 and as Driver 'B' on 4-1-1979. He has no entries in his record so far for unsafe working.

IX. RELIEF ARRANGEMENTS

I am satisfied with the arrangements for the relief of the injured, made by the local people, Police and fire brigade.

X. REMARKS AND RECOMMENDATIONS

1. It is well known that Narrow Gauge stock is prone to overturn at speeds much lower than on wider gauges. It is, therefore, essential that the drivers of NG trains are educated in driving within permissible speed limits. In the absence of speedometers, the drivers have no way of judging speeds accurately. The

Railway Administration may ensure that Supervisory Officials travel frequently on the foot plates of these locomotives, monitor speeds and ensure that all drivers are educated in correct driving within permissible speed limits.

2. Overcrowding of trains with consequent roof travelling occurs and it is not possible for the Railway's staff to prevent it. Though the Railway's Working Time Table contains, for this Section, a speed restriction of "8 kmph on the loops" with the remarks "SMs on either side of the loop to ensure that no person is allowed to sit on the roof", it appears that roof travelling is quite common.

Consequent to the accident to the Pathankot-Nagrata Passenger Train on 12th May 1979, the Ministry of Railways had issued instructions to the General Managers of all Indian Government Railways (vide their letter No. 79/Safety (A & R)/1/13, dated 14-7-1980) that "the Railway Administrations should frame rules enjoining on Drivers and Guards of passenger trains, to reduce speeds when passengers travel on the foot boards and roofs of Narrow Gauge trains" and that "the speed in such cases should not exceed 25 kmph in sections with sharp curves on down gradients subject to other local restrictions". While the speed of 25 kmph may be safe for 762 mm Gauge stock, it is not so for 610 mm Gauge stock. The Railway Administration may fix a safe speed limit for 610 mm stock with passengers on the roof and side, considering the track and rolling stock parameters, including their dynamic response characteristics like parasitic accelerations and rolling. Pending determination of this limit, speed may be fixed at a sufficiently low limit when (roof) travellers are present outside the coach on 610 mm Gauge.

Railway Ministry may issue suitable instructions to all Railways operating on 610 mm gauge.

- 3. The accident may perhaps have been avoided if arrangements were made to accommodate extra passengers by running another part of the train, as permissible in the prevalent Main Line System of working. The fact of the motor strike was known hours earlier and it would normally have been expected that the Station Master will seek guidance from his Superior Officers at New Jalpaiguri or Katihar about arrangements to be made. The Railway Administration may issue suitable standing instructions for the guidance of the staff in charge of stations and trains to ensure that, in unusual circumstances like the instant one, the concerned Officers are consulted in good time and their orders obtained.
- 4. It is unfortunate that the Working Time Table timings are not in accordance with the maximum speeds permissible. The Working Time Table be reviewed and timings adjusted so that minimum running times are attainable without exceeding the maximum permissible limit of speed.
- 5. The speed limits may be related to Up and Down gradients instead of Up and Down trains as at present when an Up train can run down from Ghum to Darjeeling at a speed higher than what is permitted for a train going down from Ghum to Sukna.
- 6. Engineering Officers inspect the track on this Section mostly by road. The Chief Engineer may review the practice and lay down guide lines for adequate inspection of track at appropriate levels.
- 7. In 1978, the then ACRS (in his letter No. 203/7/1/Pt. I dated 8-6-78) had drawn the attention of the Railway Administrations to many unsatisfactory aspects of the state of maintenance of the Engineering assets including the need for check rails on curved track, worn out rails and defective turnouts, and neglect of inspection of bridges. The Railway had then stated that a draft Special Schedule of Dimensions for this 610 mm gauge was being processed, in which provision for check rails on curves were included. It is understood to be under consideration of RDSO since 1971. Finalisation of provisions for check rails may be expedited.

Yours faithfully,

(K.J.N. KUTTY)
COMMISSIONER OF RAILWAY SAFETY,
NORTH EASTERN CIRCLE, GORAKHPUR.

VIEWS OF RAILWAY BOARD ON VARIOUS PARAS OF THE REPORT

1. Para (5)(a)

The development of a suitable speed indicating/recording mechanism is in hand and the needs of the NG sections will be borne in mind when doing so. The existing system in vogue as brought out by GM, N.F. Railway would appear to be adequate and as good as anything else.

2. Para 5(b) & (c)

Railway Administration has taken steps to assess passenger traffic for Siliguri-Darjeeling section regularly and to supplement train services to clear any extra traffic whenever called for to minimise over crowding. To eliminate roof and foot board travelling action has been taken by the Railway.

3. Para 5(d)

Necessary correction in the minimum running time has been carried out in the working time table by the N.F. Railway. Other Railways have also been requested to conduct similar reviews.

4. Para 5(e)

The views of RDSO regarding the appropriate speed limit are being obtained and suitable instructions will be issued in due course. Meanwhile, the maximum permissible speed limit between Sukna and Darjeeling has been fixed uniformly at 15 Kmph for both the directions. This together with intensification of watch over the performance of Drivers is expected to reduce changes of similar accidents.

5. Para 5(f)

The guidelines issued for inspection of track by DEN, AEN&PWI provide for in addition to inspection on foot, by push trolly and window trailling/I.C. inspection. The periodicity of such inspections has also been fixed for strict observance. This has been noted by CCRS.

6. Para 5(g)

RDSO have been requested to send approved special schedule of dimensions for Darjeeling Himalayan Section of 610 mm gauge without further delay.

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