

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

Office of the Commissioner of Railway Safety,  
Eastern Circle, 14, Strand Road (12<sup>th</sup> Floor),  
Kolkata - 700001.

No. MAC-232/11/44/H

Dated: 29.04.2011

To  
The Chief Commissioner of Railway Safety,  
Ashok Marg,  
Lucknow - 226 001.

Sir,

Sub: Preliminary narrative report on Derailment of 11123 Up Barauni-Gwalior Mail and its dashing by 13186 Dn Jaynagar – Sealdah Gangasagar Express at Km. 31/7-8 between Ujiyarpur – Samastipur stations of Sonpur Division of East Central Railway on 14.04.2011 at about 19.50 hrs.

INTRODUCTION

**1.1 Preamble**

In accordance with Rule 3 of the “Statutory Investigation into Railway Accidents Rules, 1998” published by the Ministry of Civil Aviation, I hereby submit a brief Preliminary narrative Report of my Statutory Inquiry in respect of the Derailment of 11123 Up Barauni-Gwalior Mail and its dashing by 13186 Dn Jaynagar-Sealdah Gangasagar Express at Km. 31/7-8 between Ujiyarpur-Samastipur stations of Sonpur Division of East Central Railway on 14.04.2011 at about 19.50 hrs.

**1.2 Inspection and Inquiry -**

- 1.2.1 On 14.04.2011 at 21.14 hrs, CSO, EC Rly spoke to me on my mobile phone informing about the derailment of Train engine and 5-6 coaches of Barauni-Gwalior Mail near distant Signal of SPJ station. He also informed of fire in the train engine of Gwalior Mail. In the meantime, 13186 Dn Ganga Sagar Exp which was coming from opposite direction dashed against the derailed coaches of Gwalior Mail which were infringing the movement on the other track. He reported that there was no causality but some injury is apprehended. I asked him to convey further details when available in due course. He mentioned that PHODs will be proceeding to the site of accident.
- 1.2.2 At 21.26 hrs, I talked to DRM/SPJ on his mobile phone. He was already at the site of accident by that time. I took the details of the accident from him. He mentioned about injury to two persons who was being shifted to Railway hospital. There was no casualty. I asked him for proper preservation of clues to establish the cause of the accident and arrange for revealing photographs.
- 1.2.3 I sent following message through SMS to CSO/ECR at 21.26.21 hrs and DRM/SPJ at 21.33.12.

“Please arrange preservation of clues properly with revealing photographs – CRS/EC”.

1.2.4 I spoke to CCRS at 21.38 hrs and informed him about the accident. I expressed intention to conduct my statutory inquiry into the accident which he also endorsed.

1.2.5 I further sent following message to DRM/SPJ and CSO/ECR at 21.55.40 hrs and 21.57.09 hrs respectively.

“Point of mount / drop, rail breakage if any at the rearmost end to be specifically noted, so should be defects in loco/coaches. I intend conducting inquiry – CRS/EC”.

1.2.6 On 15.4.11 at 8.05 hrs, I spoke to CSO/ECRly and took the details of the current status. He informed me that there were total 07 injury including the loco pilot of 13186 Dn, 02 were reported to be grievous. All the injured persons were given treatment in Railway Hospital, Samastipur. It was told that train engine and 07 coaches of 11123 Up had derailed and the engine of 13186 Dn had dashed against the front SLR of 11123 Up which was derailed infringing the Dn track. There was no derailment of 13186 Dn train, only there was grazing on the body of coaches and right portion of cab of the locomotive was damaged. He also briefed me on relief and rescue work.

I requested him to arrange for Press Notification in regard to conduct of my statutory inquiry on 16.04.11 (Saturday) and 17.04.11 (Sunday) at Samastipur, the place being near to the site of accident.

1.2.7 CSO/EC Rly was also advised to arrange for required witnesses and make other necessary arrangements to facilitate site inspection and enquiry.

1.2.8 Advice was also made to arrange written information to local DM and SP about the programme of my statutory enquiry and ensure presence of concerning HODs as well as DRM, Samastipur and Sonpur with Branch officers during my site inspection and enquiry.

1.2.14 As advised, Railway arranged to publish Press Notification in local leading News papers ( in English and Hindi ) about holding of my statutory inquiry at DRM/SPJ’s conference hall from 10.00 hours on 16.04.2011 and 17.04.2011 inviting members of public having knowledge relating to the accident or matters connected therewith to tender evidence at the inquiry or to write to my office address at 14 Strand Road, 12<sup>th</sup> floor, Kolkata – 700 001.

1.2.15 As per my schedule programme for site inspection and holding statutory inquiry, I reached Samastipur in the morning of 16.04.11 by 13019 Up Bagh Express.

1.2.16 At about 10 hrs, I proceeded to the site of accident by road along with DRM Sonpur and Samastipur. Branch officers of both the divisions also accompanied. CSO, CE/TSP (THOD) & CRSE of ECRly also joined during the site inspection.

1.2.17 After inspection of the site, we proceeded to the Railway Hospital, Samastipur where driver of 13186 Dn, Sri Manohar Ram was hospitalized after getting injured during the accident. He had suffered injury to his right elbow and nature of his injury was categorized as simple. I found him in normal state. I enquired from him about his well being and about the accident. He was composed, described incident coherently and answered the queries.

1.2.13 There after, we went to the Conference Hall, DRM office, E C Rly Samastipur for conducting the inquiry.

1.2.13 The inquiry on 16.04.11 was assisted by following officers of East Central Railway.

- i) Sri R.K.Agrawal, DRM / Sonpur.
- ii) Sri S.P.Trivedi, DRM /Samastipur.
- iii) Sri Deepak Chhabra, CSO / E.C. Railway.
- iv) Sri Chetram, CRSE / E.C.Railway.
- v) Sri A.K.Sinha, CE (TSP) / E.C.Railway.

Branch officers of Sonpur and Samastipur divisions were called as and when required.

1.2.14 During my enquiry on 16.04.11 which continued till 21.30 hrs, 08 no of witnesses comprising of railway staff submitted their statement and all were cross examined. ADM and Dy SP of Samastipur came during the inquiry, but they did not submit any statement on the accident on their own. They were asked to make their statement and submit any fact / evidence concerning the accident to which they stated that they would send their report next day. On 17.04.11, a letter bearing no 343 / 11 dated 16.04.11 was received from Government Railway Police Inspector, Samastipur. No member of public or any passenger attended the enquiry.

1.2.15 On 16.04.11 afternoon, we went to the Diesel loco shed, Samastipur where the locomotive of 11123 Up, no 13292 WDG3A based at Vatva Diesel Loco Shed, WRly was available. Detail inspection was made on the locomotive.

1.2.17 On 17.04.11, I inspected the affected coaches of 13186 Dn in SPJ station yard. Then, we proceeded to Diesel loco shed, Samastipur where loco no 18538 WDM3A of 13186 Dn was inspected. Both the bogies of Loco no. 13292 WDG3A of 11123 Up were rolled out for detail observations and measurements. Rubbing marks on Equalizing beams/cattle guards etc were specifically noted.

I once again visited the site of accident to examine coach no. NC08482GS whose bogies/wheels had come out during the accident. The upper carriage of the coach was lifted for facilitating close examination. I again examined the undisturbed track before point of drop to find out if there was point of mount, but point of mount could not be located. Close photographs of rail head were taken to see if point of mount could be identified on zooming the view of the photographs.

1.2.18 Thereafter, I returned to the conference hall of DRM office, SPJ to continue the enquiry proceedings which lasted till 21.00 hrs. 09 railway staff submitted their statement and were interrogated. I was assisted by following officers of EC Rly during the enquiry.

- i) Sri R.K.Agrawal, DRM / Sonpur.
- ii) Sri S.P.Trivedi, DRM /Samastipur.
- iii) Sri Deepak Chhabra, CSO/EC Rly.
- iv) Sri Chetram, CRSE/ EC Rly.
- v) Sri A.K.Sinha, CE (TSP)/EC Rly.

Branch officers of Sonpur and Samastipur divisions were called as and when required.

I decided to extend the enquiry by one more day i.e. on 18.04.11 to gather some more evidence.

1.2.19 On 18.04.11, the enquiry proceeding started at 09.30 hrs and I was assisted by following officers of ECRLy.

- i) Sri S.P.Trivedi, DRM /Samastipur.
- ii) Sri Angraj Mohan, ADRM / Sonpur
- iii) Sri Deepak Chhabra, CSO / E.C. Railway.
- iv) Sri Chetram, CRSE / E.C.Railway.
- v) Sri A.K.Sinha, CE (TSP) / E.C.Railway.

Branch officers of Sonpur and Samastipur divisions were called as and when required.

1.2.20 05 witnesses from local public residing in near by village where the accident took place presented themselves for giving statement. They were interrogated also. Besides, 04 railway Senior Supervisors who were signatory to the Joint note were crossed examined. Sr. DEN (Co-ord) and Sr DME (C&W) of Sonpur division who had submitted their Technical Note were also cross examined. The sectional AEN and Divisional Engineer also submitted their statement. Other details pertaining to the accident were made available by Branch Officers of Sonpur and Samastipur division. The enquiry proceedings finished at 17.30 hrs and thereafter I returned back to Kolkata.

#### **1.4 Preservation of clues**

- 1.4.1 Sr Sub-ordinates had prepared a jointly signed sketch of “the site of accident” depicting position of ‘point of drop’, dragging of the derailed wheels on the PSC sleepers and location of derailed locomotives and coaches of both the trains along with disturbed track after the accident.
- 1.4.2 04 derailed coaches of 11123 Up, 1<sup>st</sup> to 4<sup>th</sup> from train engine which were off loaded by the side of track at the accident site were available for my inspection. 08 Front coaches ( 1<sup>st</sup> to 8<sup>th</sup> from Train engine ) of 13186 Dn were kept at Samastipur yard for my inspection.
- 1.4.3 The Train engines, no 13292 WDG3A and no. 18538 WDM3A of 11123 Up and 13186 Dn respectively were available at Diesel Loco Shed, Samastipur for my inspection.
- 1.4.4 The damaged/broken rails of the accident site were also available at the site.
- 1.4.5 Breathanalyser tests were done on Drivers and Assistant drivers of both the trains by railway doctors of Garahara. Blood samples were also taken from driver and Assistant driver of 11123 Up and the Driver of 13186 Dn for investigation.
- 1.4.6 Speed Recorder Chips were preserved for both the locomotives.
- 1.4.7 Railway had done videography of the accident site and also taken still photographs. They were displayed before me.

#### **1.5 Description of “ The Accident ”**

- 1.5.1 11123 Up Barauni – Gwalior Mail comprising of 19 airbrake coaches worked by Diesel Locomotive no. 13292 WDG3A of Diesel Loco Shed Vatva, Western Railway under the

charge of Loco Pilot Sri Ramnandan Prasad / Assistant Loco Pilot Sri Jagar nath Sah, both headquartered at Barauni and Guard Sri Krishna Murari Prasad, HQ/BJU passed Ujiyarpur station of Sonpur division of ECRly through on Up line via Loop at 19.45 hrs on 14.04.2011 and derailed with Train engine and 07 front coaches ( 1<sup>st</sup> to 7<sup>th</sup> from train engine ) at Km 31/7-8 ( From Bachhwara station). The driver had applied the brake to stop his train seeing flying ballasts behind and flames coming out from below the under frame of his locomotive. In the meantime, 13186 Dn Jaynagar – Sealdah Ganga Sagar Express consisting of 18 air brake coaches worked by Diesel Locomotive no. 18538 WDM3A of Diesel Loco shed, Jamalpur of Eastern Railway under the charge of Loco pilot Sri Manohar Ram / Assistant Loco Pilot Sri K.K.Rajak, both headquartered at JAJ and Guard Sri Pritam Dutta, HQ/BJU left Samastipur station at 19.45 hrs on 14.4.11 after its schedule stoppage and while on run on Dn line towards Ujiyarpur station dashed against the derailed front SLR no SC 97725 of 11123 Up which was infringing the Dn track after derailment. One wheel of one of the derailed coaches of 11123 Up had also got entangled between the under frame and front bogie of the train engine of 13186 Dn and was getting dragged along. The driver had immediately applied emergency brake and the train stopped at Km 31.500. There was no derailment to the train engine or any of the coaches of 13186 Dn. The right side of the loco cab and of the front SLR of 11123 Up were damaged. There were scratch marks on side panel of 08 front coaches of 13186 Dn above the windows and the driver of the train was injured on his right hand elbow.

- 1.5.2 The nature of weather – The weather at the time of accident was clear and fair. There was no rain / storm etc.
- 1.5.3 Casualties – I regret to report that as a result of accident, 02 passengers of the trains were grievously injured and another 05 passengers including the loco pilot of 13186 Dn sustained simple injuries.

Break Up:-

	No of injured passengers		
	Grievous	Simple	T
11123 Up	01	04	05
13186 Dn	01	01*	02

\* Loco pilot of 13186 Dn

- 1.5.4 Passenger occupancy:-  
Following occupancies were reported in the trains:-  
11123 Up -Total 127 no.  
(Reserved coaches - 17 no & Unreserved coaches - 120 no )  
There were 65 passengers in 07 derailed coaches.
- 13186 Dn - Total 950 no.  
( Reserved coaches - 650 no & unreserved coaches – 300 no.)
- 1.5.5 Loco pilot and the driver are interchangeably used in the report and represent the same person.
- 1.5.6 The 'left' and 'right' used in the report are with respect to the direction of movement of the train.

## II INTIMATION AND RELIEF MEASURES

### 2.1 Intimation

2.1.1 Commercial control of Sonpur Division received information about the accident from Sri R.C.Chowdhury, Sr TTE of 11123 Up. It was about 19.59 hrs of 14.4.11 as per statement made jointly by Sri R.C.Chowdhury and Sri Kashi Kant Jha, both Sr TTE of 11123 Up on 14.4.11. As per Sr DOM/Sonpur, information of the accident was received by Dy Controller (Coaching) Sonpur from Commercial Controller / Sonpur at 20.05 hrs.

2.1.2 Further dissemination of information by SEE control was as under:-  
20.09 to 20.12 – DRM was informed Branch officers were intimated by respective control.

2.1.3 While in the Officer's club at Samastipur, Sr DME (Diesel)/SPJ mentioned to DRM / SPJ at about 20.10 hrs that one of his Junior Engineer (Diesel) who was traveling in 13186 Dn had informed him that train no. 11123 Up got derailed between Ujiyarpur – Samastipur and its loco had caught fire. He also mentioned that perhaps there was slide collision between the two trains.

- DRM/SPJ immediately rang DEN-III/SPJ asking him to accompany him to the site of accident.
- DRM/SPJ asked Sr. DME (Diesel) to inform all concerned to reach the site of accident. He was also asked to call for fire brigade to the site.
- DRM/SPJ asked Sr DCM to arrange for help lines and other relief viz provision of water/tea etc to the stranded passenger.

2.1.4 After ascertaining the site of accident to be near the LC Gate no 50, Railway Hospital, Samastipur was advised at 20.20 hrs to send the ambulance to the site of accident.

2.1.5 District Magistrate and Superintendent of Police, Samastipur were informed of the accident by DRM/SPJ at about 20.20 hrs.

### 2.2 Movement of officers:-

2.2.1 i) DRM/SPJ along with DEN/III reached the site of accident at about 20.30 hrs.

ii) CMS/SPJ along with doctors and ambulance arrived site at 20.40 hrs.

iii) Sr DCM, Sr DEN (Co-ordination), Sr DME (C&W), Sr DSO, Sr DSTE, Sr DME(D), DME(P) of Samastipur division reached site at 20.45 hrs.

iv) Sr DOM, DOM/G and AOM/M, SPJ arrived in the control at 20.30 hrs. ADRM was in control at 20.35 hrs.

2.2.2 i) DRM/SEE with Branch officers left Sonpur in ART/Sonpur at 20.40 hrs and reached the accident site at 23.35 hrs.

ii) Area Officer/ Barauni with team of doctors left Barauni at 20.40 hrs in ARMV/BJU reaching the site at 22.00 hrs.

iii) ADRM/Sonpur arrived in Sonpur control office at 21.40 hrs.

2.2.3 i) CSO/CCM and CME, EC Rly proceeded to the site of accident by road ex Patna reaching site at about 1.00 hrs on 15.4.11.

ii) PCE/ECRly reached the accident site at 6.30 hrs on 15.4.11

iii) GM/ECRly arrived at the site of accident at 13.25 hrs on 15.4.11.

### 2.3 Medical attention and relief.

2.3.1 CMS/SPJ alongwith team of doctors and ambulance arrived the site of accident at 20.40 hrs on 14.4.11 and provided treatment to the injured.

2.3.2 Ordering and movement particulars of ARMV and ARTs are detailed as under.

SN	Unit	Time ordered	Departure ex base station	Arrival nearest station of site	Arrival at site
1.	ARMV/BJU	20.07 hrs	20.40 hrs	21.31 hrs (UJP)	22.00 hrs
2.	MFD/BJU	20.08 hrs	20.55 hrs	23.50 hrs (UJP)	0.40 hrs (15.4)
3.	ART/SEE	20.08 hrs	20.44 hrs	22.55 hrs (SPJ)	1.00 hrs (15.4)
4.	ART/Crane DNR	21.16 hrs	22.05 hrs	2.45 hrs (15.4)	8.25 hrs (15.4)

All timings are dated 14.4.11 except indicated otherwise.

2.3.3 The ordering of doctors / ambulance, ARMV/ARTs and their movement to the site of accident were prompt and are considered satisfactory.

2.3.4 03 injured passengers were moved to Rly Hospital, SPJ in ambulance by railway doctors at 21.00 hrs. Another 04 injured passengers were brought to Railway Hospital, SPJ by the local people. All the injured passengers were admitted and given treatment in Railway Hospital, SPJ. 04 passengers with minor injury were discharged the next day morning. One passenger by the name Md. Rashid Ali (M-35 yrs) of Kazitola, Madhubani who had grievous injury on his right elbow was sent to Central Hospital, Northern Railway as per his wish, along with one medical attendant. He was admitted there on 16.04.11 as per confirmation received. Another grievously injured passenger named Sri Pramod kumar (M-35 yrs) of Sitapur (UP) left with his parents for his treatment at Rly Hospital Lucknow where he was referred. Sri Manohar Ram (M-55 yrs), Loco Pilot of 13186 Dn was in Rly Hospital, SPJ. He had simple injury on right elbow and was detained in the hospital for my enquiry. I met him on 15.4.11 and found him in satisfactory state. He was released on 16.4.11.

2.3.5 Medical attention given to all the injured persons is considered satisfactory.

2.3.6 It was informed that DM and SP of Samastipur had promptly reached the site of accident with police force. This ensured proper safety to all the passengers and their belongings, though it was night and there was no light around till about 21.45 hrs when railways arranged electric illumination.

2.3.7 No complain was received from any of the passengers in regard to lack of assistance or loss of belongings etc.

2.3.8 The railway distributed drinking water, cups of tea, biscuits, namkeen mixtures and janta meal to the passengers of the ill fated trains.

2.3.9 Exgratia payment:

02 of the grievously injured passengers were paid an exgratia of Rs. 5000 each whereas each passenger (05 no) with simple injury was paid Rs. 500/- as exgratia amount.

2.3.10 Helplines were opened by the railway at SPJ, DBG, MBI, SKI, JYG, SEE, HJP, BJU stations.

2.3.11 Disposal of passengers:-

i) Passengers of 11123 Up which were about 125 no left in 12 coaches of the train which were not derailed at 22.40 hrs from site for UJP for their onward journey to Barauni.

ii) Passengers of 13186 Dn which were about 950 no were accommodated in 10 non derailed coaches of the train and taken back to SPJ leaving the site of accident at 22.00 hrs. The train left for destination ex SPJ at 0.55 hrs on 15.4.11 via NRM.

2.4 Restoration:-

Restoration work was undertaken with the help of ART/SEE and MFD/BJU as per following details:-

S.N from T/E	Vehicle no	Type	status	Restoration	
				Status	Time (15.4.)
	13292	WDG3A	All wheels derailed	rerailed	5.30 hrs
1.	97725	SLR	do	Off the track	4.50 hrs
2.	87477	GS	do	do	6.00 hrs
3.	08482	GS	do	do	7.20 hrs
4.	94401	GS	do	do	8.00 hrs
5.	08131	ACCN	do	Rerailed	12.45 hrs
6.	04052	ACCW	do	do	6.45 hrs
7.	08241	GSCN	SPJ end bogie derailed	do	2.20 hrs

2.4.1 Fitness of Dn track at 20 kmph speed restriction was given at 6.15 hrs on 15.4.11 OHE Fit at 12.00 hrs and the 1<sup>st</sup> train 12553 Up left UJP at 12.17 hrs for SPJ via Dn line reaching SPJ at 13.00 hrs.

2.4.2 For Up line, track fitness was given at 14.30 hrs on 15.4.11 with a caution of dead stop and 10 kmph; OHE fitness at 13.30 hrs. The 1<sup>st</sup> Up passenger train no 53041 Up left UJP at 15.20 hrs on proper line for SPJ.



- 2.4.3 The restoration is considered done at reasonable pace.
- 2.5 Effects of the accident on train services.
- 2.5.1 Cancellation – Following trains were concealed.
- i) 55527 Up : BJU – SPJ on 15.04.11
  - ii) 55536 Dn : DBG – KIR on 15.04.11
  - iii) 11123 Up : BJU – GWL on 14.04.11
  - iv) 23225 Up : SHC – BJU on 15.04.11
  - v) 55562 Dn : SPJ-SHC-DMH on 15.04.11
  - vi) 25610 Dn : DBG – GHY on 15.04.11
- 2.5.2 Termination : Following trains had to be short terminated.
- i) 53131 Up terminated at BJU on 14.04.11
  - ii) 53228 Dn terminated at BJU on 14.04.11
  - iii) 15204 Dn terminated at MFP on 15.04.11
  - iv) 13155 Up terminated at BJU
- 2.5.3 Regulation:- Following trains were regulated.
- i) 12545 Up at DBG for 05 hr 10 min
  - ii) 55555 Up at BHB for 1 hrs
  - iii) 15281 Up at DHT & BHB for 45 min each.
- 2.5.4 Diversion :- Total 19 trains had to be diverted via SPJ – WPO – KGG – BJU etc.

### III. THE TRAINS

#### 3.1 Composition and marshalling order of the trains

Two trains viz 11123 Up Barauni – Gwalior Mail and 13186 Dn Jaynagar – Sealdah Ganga Sagar Express were involved in the accident. While 11123 Up with a composition of 19 coaches was being worked by Diesel locomotive 13292 WDG 3A, 13186 Dn had a composition of 18 coaches and was being worked by Diesel Loco 18538 WDM3A.

#### 3.2 Train no 11123 Up Barauni – Gwalior Mail

##### 3.2.1 Locomotive

3.2.1.1 The train was being worked by loco no 13292 WDG3A based at Vatva Diesel Loco shed of Western Railway. The loco was working in short hood leading position.

This loco was not a regular loco in the link. It was utilized to work 11124 Dn to Barauni ex Chhapra on 14.4.11 when its train engine had failed. WDG3A locomotives are designated locos for goods services and normally not deployed for working passenger trains. Further, this loco was marked “unfit for passenger” on the body of the loco cab. The loco should have



1	SCRSLR97725	BEML	1997	CRWSBPL-10/10	5/12	-	-	-
2	NCRGS87477	ICF	1987	GKPS-9/11/10	6/12	-	GWL 11/3/11	GWL 12/02/11
3	NCRGS08482	ICF	2008	GKPS-14/06/10	1/12	-	GWL 12/2/11	GWL 11/03/11
4	NCRGS94401	RCF	1994	GKPS-30/12/10	8/12	-	-	GWL 26/03/11
5	NCRACCN08131	RCF	2008	LLHM-26/07/10	3/12	-	-	-
6	NCRACCW04052	RCF	2004	AMV(M)- 29/01/10	9/11	LLHM 16/11 /10	GWL 20/3/1 1	GWL- 27/02/11
7	NCRGSCN08241	RCF	2008	GKPS-15/02/11	9/12	-	GWL- 14/2/1 1	-
8	NCRGSCN99318	RCF	1999	GKPS-15/02/11	9/12	-	GWL- 20/3/1 1	-
9	NCRGSCN90323	RCF	1990	GKPS-23/12/10	07/12	-	GWL- 26/3/1 1	GWL- 24/02/11
10	NCRGSCN90336	RCF	1990	GKPS-24/12/11	7/12	-	GWL- 20/3/1 1	GWL- 24/03/11
11	NCRGSCN05201	RCF	2005	GKPS-28/01/11	9/12	-	GWL- 26/3/1 1	-
12	NCRGSCN91346	RCF	1991	GKPS-10/11/10	6/12	-	GWL- 11/3/1 1	GWL- 12/02/11
13	NCRGSCN92380	RCF	1992	GKPS-09/03/11	10/12	-	-	-
14	NCRGSCN94359	RCF	1994	GKPS-30/12/10	8/12	-	GWL- 27/2/1 1	GWL- 26/03/11
15	NCRGSCN91338	RCF	1991	GKPS-19/05/10	12/11	GWL- 3/3/1 1	-	GWL- 21/02/11
16	NCRGSCN99220	RCF	1999	GKPS-28/05/10	1/12	-	ALD- 14/3/1 1	-
17	NCRGS00420	RCF	2000	GKPS-29/05/10	1/12	-	GWL- 26/3/1 1	GWL- 27/02/11
18	NCRGS06419	RCF	2006	GKPS-30/04/10	12/11	GWL-	-	-

						31/03 /11		
19	NCRSLR91704	BEML	1991	GKPS-29/07/10	3/12	-	GWL- 26/2/1 1	GWL- 31/01/11

Front 07 coaches ( SN 1 to SN 7 ) had derailed.

3.3 Train no. 13186 Dn Jaynagar – Sealdah Ganga Sagar Express.

3.3.1 Locomotive

3.3.1.1 The train was being worked by Loco no. 18538 WDM3A based at Burdwan Diesel Loco Shed of Eastern Railway. The loco was working in short hood leading position.

3.3.1.2 Schedule particulars of the locomotive

PIC – 15.5.1981 at BGKT

RB - 4.2.2004 at DCW / Patiala

M72 – 20.9.2010 at BWN

M4 – 18.2.2011 at BWN

M2 – 11.4.2011 at BWN

TI due – 30.4.2011

3.3.1.6 Brake system available in the locomotive.

The loco is provided with IRAB pure air brake system with D1 emergency brake valve. Besides, it had dynamic braking and Hand brake in working condition.

3.3.1.7 Speedometer/Speed recorder:-

The loco is provided with MRT 918M and MRT 9121 Speed Recorder/ Speedometer of M/s. Medha make having 90 days memory. It was last calibrated on 14.2.2011 at BWN Diesel shed.

3.3.1.5 The locomotive was fitted with requisite safety fittings which were in working order viz. Flasher Light, Twin beam Head Light, Classification Light, Horns, rail guard, cattle guard etc.

3.3.1.6 The loco was provided with VCD incorporated with MEP – 660 Microprocessor based Loco control system and was in working order as per checking done during M2 schedule on 11.4.11.

3.3.1.7 Length and Weight of the locomotive

Length – 17120 mm

Weight – 112.8 Tonnes

3.3.2 Coaches

3.3.2.1 The trailing load of the train was comprising of 18 coaches (GS LRD – 02, GS – 05, ACCN-01, GSCN- 09, and VPH-01).

3.3.2.2 The rake of the train is based for Primary maintenance at Coaching Depot, Sealdah of Eastern Railway and falls in the category of less than 3500 km round trip run Mail / Exp train (RPC – 4 pattern). The last Primary maintenance was done on 13.4.11.

3.3.2.3 The coaches are provided with twin pipe air brake system and it was reported that ACP arrangements were functional in each coach and the coaches were equipped with requisite safety fittings.

3.3.2.4 Length of the train was 401m excluding the length of the locomotive.

3.3.2.5 The marshalling order of the train and schedule particulars of coaches were as under:-

SL. from T/E	Coach no.	Make	Mfg. year	Last POH	Return date to work shop	Schedule done date		
						IOH	A	B
1	ERGSLRD03703	RCF	2003	KPA-29/09/10	05/12	-	8/3/11	28/3/11
2	ERGS99421	RCF	1999	KPA-09/12/10	07/12	-	9/4/11	12/3/11
3	ERGSCN90231	BEML	1990	KPA-24/02/10	09/11	KPA- 10/12 /10	8/2/11	12/3/11
4	ERGSCN91252	RCF	2001	KPA-25/03/10	11/11	KPA- 01/01 /11	4/3/11	9/4/11
5	ERGSCN90297	BEML	1990	KPA-09/03/11	10/12	-	9/4/11	-
6	ERGSCN04261	ICF	2004	KPA-19/02/11	9/12	-	23/3/1 1	-
7	ERGSCN08221	BEML	2008	KPA-18/03/10	10/12	KPA- 21/01 /11	5/3/11	-
8	ERGSCN98305	ICF	1998	LLH-06/04/11	11/12	-	-	-
9	ERGSCN02326	ICF	2002	KPA-31/03/10	11/11	KPA- 4/02/ 11	1/4/11	-
10	ERGSCN96257	ICF	1996	LLH-08/10/10	05/12	-	12/3/1 1	13/4/11
11	ERGSCN96214	RCF	1996	KPA-24/11/09	06/11	KPA- 16/09 /10	13/4/1 1	11/1/11
12	ERGACCN04105	RCF	2004	LLH-20/11/09	06/11	LLH- 26/08 /10	31/1/1 1	8/03/11
13	ERGS94437	ICF	1994	LLH-28/04/10	04/12	-	28/3/1 1	24/12/11

14	ERGS09426	RCF	2009	RCF-01/07/09	07/11	KPA-12/09/10	16/02	16/03
15	ERGS02455	RCF	2002	KPA-17/07/10	2/12	-	28/3/11	27/01/11
16	ERGS02500	ICF	2002	KPA-09/09/10	04/12	-	2/03/11	05/04/11
17	ERGLRD10738	RCF	2010	RCF-05/07/10	07/12	-	20/3/11	12/11/10
18	NRVPH04830	ICF	2004	LLH-11/06/10	01/12	-	-	-

None of the coach of the train had derailed.

#### 3.4 Brake power of the trains:-

3.5.2 Both the trains were provided with twin pipe air brake system and all of their brake cylinders were fully functional with 100% brake power.

3.5.3 For 11123 Up, Brake power certificate (BPC) was issued vide no. 068623 on 13.4.11 at Gwalior for working 11124 Dn. The train composition is indicated as 19=38 and brake power is 100%. At Barauni, Air pressure continuity checking was done to work 11123 Up on 14.4.11 and certificate issued vide no. 2903. For 13186 Dn, the Brake power certificate (BPC) was issued vide no. 091803 on 13.4.11 at Sealdah for working 13185 Up. The train composition is indicated as 18=36 and brake power is 100%. At Jaynagar, air pressure continuity checking was done to work 13186 Dn on 14.4.11 and endorsement made on the back of the BPC.

3.5.4 After the accident, joint brake power checking was done for both the trains after detaching the affected coaches.

- 11123 Up with 12 coaches; Train engine 16095 – Brake power testing done jointly at BJU and found 100%.
- 13186 Dn with 11 coaches; Train engine 14864 WDG3A Brake power testing done jointly at SDAH and found 100%. Brake power testing of damaged 08 coaches stabled in Samastipur yard was also jointly done and found 100%

#### 3.6 Damage and disposition

##### 3.6.2 Damage to locomotives.

###### 3.5.1.1 Loco no. 13292 WDG3A of 11123 Up

Damage to the locomotive were reported as below:

- Profile of all the wheels deformed
- BP/FP steel pipes and Angle cocks broken on long hood side.
- BP/FP safety guards broken.
- Pull rod safety clamps damaged.
- Traction motor armature (4no) damaged
- Traction motor speed sensor damaged.

The loco was rerailed and taken to Diesel Loco shed, Samastipur for further attention.

### 3.5.1.2 Loco no. 18538 WDM3A of 13186 Dn

Damage to the locomotives were reported as below.

- i) Short hood cattle guard damaged.
- ii) Driver cabin / stairs damaged on right hand side.
- iii) Short hood right hand side lookout glass / sliding window glass broken.
- iv) 2 no loco battery damaged.
- v) Pulse generator broken.

The locomotive was not derailed and was moved to Diesel Loco shed, Samastipur for further attention.

### 3.6.3 Damage to coaches.

#### 3.6.3.2 Coaches of 11123 Up

Damage reported to coaches of 11123 Up were as under.

S.N	Coach no.	Damage particulars
1.	SCR 97725 SLR	West side body panel badly damaged to the extent of 60%
2.	NCR 87477 GS	Both side end panel badly damaged.
3.	NCR 08482 GS	Delhi side end panel badly damaged
4.	NCR 94401 GS	BJU end body panel damaged. 03 no wheel set and axle box worked out; 1 no brake beam damaged.
5.	NCR 08131 ACCN	1 no dashpot coil spring/ 1 no hanger block / 1 no safety strap / 1 no brake shoe broken.
6.	NCR 04052 ACCN	Nil
7.	NCR 08241 GSCN	1 no. U safety strap damaged.

1<sup>st</sup> 04 coaches ( SN 1 to 4 ) were off loaded by the side of the track where as 03 coaches ( SN 5 to 7 ) were rerailed and taken to Samastipur.

#### 3.6.3.3 Coaches of 13186 Dn

Damage reported to coaches of 13186 Dn were as under

S.N	Coach no.	Damage particulars
1.	ER 03703 GSLRD	Scratch marks on side panel (upper portion of window), foot board broken-01.
2.	ER 99421 GS	Scratch marks on side panel (upper portion of window), foot board bend.
3.	ER 90231 GSCN	Scratch marks on side panel (upper portion of window), foot board bend.
4.	ER 91252 GSCN	Scratch marks on side panel (upper portion of window), foot board bend, Hand Roll one no missing.
5.	ER 90297 GSCN	Scratch marks on side panel (upper portion of window), foot board broken
6.	ER 04261 GSCN	Scratch marks on side panel (upper portion of window),

		foot board bend.
7.	ER 08221 GSCN	Scratch marks on side panel (upper portion of window), foot board bend
8.	ER98305 GSCN	Scratch marks on side panel (upper portion of window), foot board bend.

None of the coaches was derailed.

### 3.5.3 Damage to P.Way

Damage reported to Pway was as under:-

S.N	Item	Qty
1.	52 kg rail	159.6m ( 8.38 MT )
2.	Monoblock PSC Sleepers with fittings.	411 no
3.	52 kg SEJ with fittings	1 unit

### 3.7 Approximate cost of damage:-

Coaches	-	Rs. 88, 60, 845
Locomotives	-	Rs. 07, 52, 263
Permanent way	-	Rs . 12, 41, 278
Others	-	NIL
Total	-	Rs.1, 08, 54, 386

## IV. LOCAL CONDITIONS.

### 4.1 The section and the site:-

4.1.1 The accident took place in the block section at km 31/7-12 on Up line between the stations Ujiyarpur and Samastipur of double line non electrified Barauni – Samastipur section over Sonpur division of E C Rly. The site lies in the civil district of Samastipur in the state of BIHAR.

4.1.2 The direction of the line at the site of accident is South East – North West and is straight with clear visibility. There are villages around the site of accident having houses near by the track on both sides.

4.1.3 The track structure in the block section of the site:-

i) 52 Kg ( 90UTS ) rail of 1988/1990/1991 rolling, made into LWR.

ii) Type of sleeper - PSC of 2007-08 manufacturing, laid in 2008 -09.

iii) Sleeper density - 1660 no per km

iv) Ballast cushion – 300mm. Last deep screening done – 2008 – 09

v) Formation – Stable & Clay.

vi) Permanent Speed restriction:- 65 kmph between km 28/9-10 due to 2<sup>0</sup> reverse curve .

No speed restriction at the site of accident.

The section is approved for TRR for which 20 rail panels were found unloaded on both side of the track at the site of accident.



- 4.1.4 There are 02 Level Crossings one each on either side of the site of accident:-  
LC no. 49, 'C' class (manned) Engineering at km 29/10-11 and  
LC no. 50, 'C' class (manned) Engineering at km 32/15-16.  
There is no major bridge in the section.
- 4.2 Signalling  
The section has Multiple Aspect Colour Light signaling with standard III interlocking.
- 4.3 System of working  
Trains in the section are worked on Absolute Block system.
- 4.4 Headquarters and Jurisdiction  
Engineering – DEN/III, SEE, ADEN (West)/BJU, SSE (Pway)/SPJ, JE (Pway)/SPJ  
Signal – SR DSTE / SPJ, DSTE / BJU, SE ( S&T ) / BJU  
Operating – Sr DOM / SPJ, TI (M) / Barauni ( West )
- 4.5 Max permissible speed -  
Maximum cum booked speed of the section is 110 kmph and there was no permanent or temporary speed restriction at the site of accident.
- 4.6 The kilometerage in the section is reckoned from Bachhawara station ( km 0.0 ) of Sonpur division. The jurisdiction of Sonpur division is up to km 31.80 and beyond is in Samastipur division.

## V. SALIENT FEATURES

- 5.1 11123 Up Barauni – Gwalior Mail is a daily train originating ex Barauni Jn of EC Rly. On 14.04.11, it started right time at 18.45 hrs and passed Ujiyarpur station at 19.45 hrs, 15' late.
- 5.2 During the run of the train through Ujiyarpur station via loop, the speed was 21 kmph as per speed recorder chart, passed permanent speed restriction zone of 65 kmph between km 28/9-10 at speed in the range of 61-65 kmph. Thereafter, the speed of the train gradually increased becoming maximum of 84 kmph before the accident took place.
- 5.3 The train had derailed with all wheels of locomotive and the front 6 coaches whereas the 7<sup>th</sup> coach from train engine was derailed by only 02 wheels of leading bogie (i.e. SPJ end), the trailing bogie wheels i.e. BJU were on rail.
- 5.4 At the site of accident, only points of drop on the left of the rails was found. No point of mount was seen.
- 5.5 After the drop, the derailed wheels traveled for a distance of 86.50 meter without any damage to the rails except breaking ERCs and creating hitting marks on the PSC sleepers, but on encountering an SEJ, the SEJ got completely broken and thereafter the track for a length of 172 m got badly bent and took shape of a sin curve.
- 5.6 Rail had following breakages:-  
i) Right rail at a distance of 10.64m from ' Point of Drop' from joggled weld joints.  
ii) Left rail at a distance of 10.90 m from 'Point of Drop' from joggled weld joints.  
iii) Right rail at a distance of 89.20m from 'Point of Drop' : fresh fracture near weld joint.
- 5.7 The loco pilot had applied the brake to stop the train when he looked back and saw ballast flying and fire from beneath the under frame of the locomotive.

5.8 The fire was due to oil soaked muck on top of the fuel tank which got ignited. It was towards left side of the tank and being of minor nature could be extinguished by Loco pilot and Asstt. Loco Pilot using 04 no of Fire Extinguishers available in the locomotive.

5.9 13186 Jayanagar – Sealdah Ganga Sagar Express had left Samastipur station at 19.45 hrs on proper signal after schedule stoppage and when 11123 Up came to stop after derailment at 19.51.05 hrs, its speed was 50 kmph and it dashed against derailed Front SLR of 11123 Up which was infringing the MMD for Dn line. One loose wheels of one of the derailed coaches had also got entangled within the bogie frame and underframe of the loco. The derailment of 11123 Up took place immediately before 3186 Dn was passing and there was no time for 13186 Dn to apply brake to avoid dashing with the coach of 11123 Up.

5.10 12 no of 20 Rail panels ( 260 m length ) were unloaded on both side of the uptrack in the stretch which includes the site of accident taking traffic block from 16.40 hrs to 17.40hrs on 14.4.11 which got extended till 18.25 hrs.

5.11 The unloaded rail panels were found to infringe the SOD (MMD of the locomotive) by 105 mm to 125 mm horizontally and by 08 mm to 20 mm vertically as per joint measurements recorded after the accident.

Prima-facie, the unloading of rail panel was carried out hurriedly when the darkness was setting in and adequate checks were not done to ensure they are clear off MMD to avoid any obstruction to a moving vehicle. In fact the rail panel unloaded on to the right side of the up track was found tilted which could be the result of haste unloading.

5.12 Rubbing marks were seen on the rail head and face of the panel rails as well as on equaling beams and their brackets of the locomotive of 11123 Up indicating the obstruction in the movement of the locomotive and possible off loading of its wheels.

5.13 Flying sparks from the rail were reported by the witnesses from the nearby villages when 11123 Up was passing the site of accident. This confirms the metallic rubbing due to obstruction of an iron body with another iron body which was moving at a high speed. These flying sparks appear to be the cause for igniting the oil soaked muck on the fuel tank of the locomotive causing fire.

5.14 Before 11123 Up, following 02 trains passed the site of accident as per timing and speed indicated against each.

	UJP	SPJ	Speed
2203 Up	d 18.44 hrs	a 19.03	hrs 30 kmph
3419 Up	d 19.06 hrs	a 19.20	hrs 70 kmph

The 1<sup>st</sup> train i.e 2203 Up was given a caution of 30 kmph due to unloading of rail panel just before its run.

5.14.1 2203 Up was worked by 16153 WDM3A locomotive of Diesel shed Ludhiana, N Rly and 3419 Up by 16359 WDM3A locomotive of Diesel shed Jamalpur, Eastern Rly.

While 16359 WDM3A had new wheels having diameters in the range of 1092- 1095 mm, 16153 WDM3A had wheels having diameters in the range of 1070- 1072 mm.

5.15 The locomotive no 13292 WDG3A which was utilized to work 11123 Up was a non passenger locomotive marked “Unfit for passenger” on the outside of loco cab. Its wheel diameter was in the range of 1008 – 1011mm. This loco was deployed to work 11124 Dn ex CPR when the working loco had failed. It should not have been booked to work 11123 Up ex BJU being an unfit loco for passenger due to low wheel diameters.

5.16 Due to higher wheel diameters of locomotives of 2203 Up and 3419 Up, the clearance of its bottom most member from the rail level was 31 mm & 42 mm more compared to that of 11123 Up. Further, measurements of loco no 13292 WDG3A of 11123 Up also revealed that its equalizing beams were at heights ranging from 85 mm to 135 mm from rail level against required height of minimum 102 mm as per MMD.

5.17 Track measurements in the rear of “Point of drop” to 15 stations revealed that the gauge was varying from -3 mm to -8 mm and cross level variation was 0 to 5 R mm.

Measurements till 05 stations are reproduced here under:-

Station	Gauge (mm)	Cross level (mm)
0	-4	2R
1	-3	0
2	-5	0
3	-3	5R
4	-4	4R

5.18 The wheel profile of the locomotive 13292 WDG3A of 11123 Up was ok. However, wheel gauge for no 2 wheel sets was measured to be 1604, 1604, 1606, 1607 mm, which is more than 10 mm from the standard gauge of 1596± 0.5 mm.

5.19 The wheel profile and roller bearings of the wheel sets of derailed coaches of 11123 Up were observed to be ok except for 02 bearings where outer race and housing had got dismantled, apparently due to impact of accident.

In one coach no NC 08482 GS, out of 04 centre pivot bolts, 03 were found broken and one was missing.

## VI. PROVISIONAL FINDINGS

6. Having carefully considered all the evidence tendered, records produced, observations, site inspection and circumstantial evidence, I have come to the provisional conclusion that derailment of 11123 Up Barauni-Gwalior Mail and its subsequent dashing by 13186 Dn Jaynagar – Sealdah Gangasagar Express at Km. 31/7-8 between Ujiyarpur – Samastipur stations of Sonpur Division of East Central Railway on 14.04.2011 at about 19.50 hrs was due to failure of railway staff.

## VII. IMMEDIATE RECOMMENDATION

I make following immediate recommendations:-

- 7.1 While unloading rail panels by the side of a running rail, placement of the panel rails clear off the 'Maximum Moving Dimension' is imperative. However, no adequate system to check the above was found in existence in the field except the visual perception and checking of infringement by moving the EUR train. This is not considered adequate. Detail instructions incorporating methodology of measurements of horizontal and vertical clearances of unloaded rail panels from running rail should be issued with a view to compare the actual clearances with the required clearances.
- 7.2 Before unloading rail panels, site of unloading should be prepared by way of leveling /removing extra ballast if any from crib and shoulder with the objective to ensure requisite lateral and vertical clearances as well as to avoid slippage of panel rails due to vibration during passage of trains at high speed.
- 7.3 Unloading of rail panels should be done by a team of trained and dedicated gang under the active supervision of competent supervisor/officer.
- 7.4 Reasonably adequate block should be asked and provided for unloading of long rail panels and the work should be done preferably in day light to avoid short cut in haste which may infringe the safety requirements.
- 7.5 Loco declared unfit for passenger services should not be booked to work Mail/Exp/Passenger trains. In case of extreme exigencies, approval of concerning Branch Officer of the division must be taken with concurrence of HOD of the railway.

(R. P. Yadav)  
Commissioner of Railway Safety,  
Eastern Circle, Kolkata.

No. MAC-232/11/44/H

Dated: 29.04.2011

The Chief Commissioner of Railway Safety,  
Ashok Marg,  
Lucknow

Sir,

Sub: Preliminary narrative report on Derailment of 11123 Up Barauni-Gwalior  
Mail and its dashing by 13186 Dn Jaynagar – Sealdah Gangasagar  
Express at Km. 31/7-8 between Ujiyarpur – Samastipur stations of Sonpur  
Division of East Central Railway on 14.04.2011 at about 19.50 hrs.

In accordance with Rule 3 of 'The Statutory Investigations into Railway Accidents Rules 1998' published by the Ministry of Civil Aviation, I have the honour to submit a brief preliminary narrative report of my Statutory Inquiry into the above accident.

Yours faithfully,

( R. P. YADAV )  
Commissioner of Railway Safety,  
Eastern Circle, Kolkata

D.A. Preliminary Report & Press Note.

Copy forwarded for information to:-

1. Secretary (Safety), Railway Board, New Delhi.
2. General Manager, East Central Railway, Hajipur.
3. Principal Information Officer, Press Information Bureau, Shastri Bhawan,  
Rajendra Prasad Road, New Delhi – 110 001.

( R. P. YADAV )  
Commissioner of Railway Safety  
Eastern Circle, Kolkata

D.A. Preliminary Report & Press Note.

## **PRESS NOTE**

Shri R. P. Yadav, Commissioner of Railway Safety, Eastern Circle, Kolkata held a Statutory Inquiry into the "Derailment of 11123 Up Barauni-Gwalior Mail and its dashing by 13186 Dn Jaynagar – Sealdah Gangasagar Express at Km. 31/7- 8 between Ujjayarpur – Samastipur stations of Sonpur Division of East Central Railway on 14.04.2011 at about 19.50 hrs" As a result of the accident, no one was killed but 07 persons were injured, 02 of them grievously.

According to the provisional findings of the Commissioner appended with his Preliminary Report, the accident occurred due to "Failure of Railway Staff". These findings are under the consideration of the Government.