

No. 2020/M(C)/650/2

New Delhi, Date: 17.02.2023

Managing Director
DFCCIL

Sub: Attachment of NMGHS coach with a freight train over DFC routes.
Ref: i. DFCCIL letter no. HQ/ML/Parcel dated 19.01.2023.
ii. RDSO's Letter No. MC/MV/Maruti Dated 16.02.2023

In reference to the request of DFCCIL vide letter under reference i above, RDSO has examined the matter in detail. Accordingly attachment of NMGHS coach with a freight train over DFC routes is permitted with following stipulations:

- One NMGHS coach may be attached, inside the rear brake van of the train rake i.e. as 2nd last vehicle (just ahead of Guard Brake Van) in only container type wagons (BLC/BLCM or BLL/BLLM) rakes of standard one rake length running on IR.
- Only CBC retro-fitted NMGHS coaches as per applicable RDSO guidelines are permitted to be attached.
- The maximum permissible speed of freight train with NMGHS coach shall be 100 kmph or the lowest permissible speed of freight train in which NMGHS coach is attached, whichever is lower.
- The Consignment loaded in NMGHS shall be evenly loaded and properly lashed to avoid en-route shifting.
- At the time of attachment of NMGHS, 100% brake power in NMGHS coach should be ensured i.e. all the brake cylinders of NMGHS shall be operative. Attachment shall normally be with twin pipes (FP and BP). However, only in emergency, single pipe mode can also be permitted.
- The BP pressure in brake van of freight train in which one NMGHS has been attached shall not be below 4.7Kg/cm².
- NMGHS shall be attached in freight train only after examination at nominated depot. All conditions applicable for examination of NMGHS as stipulated by Railway Board shall be followed.
- Items of GDR examination of the freight train when due will also be checked for attached NMGHS coach.
- Details of damages/deficiencies/sick markings in NMGHS coach attached in freight trains should be maintained by Zonal Railways and DFCCIL for a period of 6 months, Any abnormalities noticed may be brought to the attention of RDSO/Railway administration promptly.
- All stipulations for operation/loading of NMGHS as per applicable speed certificate issued by ROSO shall be followed.

For further necessary action please.

(सुमन कुमार तौती)
निदेशक / यांत्रिक इंजी. (कोचिंग)
रेलवे बोर्ड

C/-PCMEs/All Zonal Railways for kind information and necessary action please.
-GGM/Mech./DFCCIL- for kind information please.

MC/MV/Maruti

Dated 16.02.2023

EDME / Coaching
Railway Board
Rail Bhawan
New Delhi-100 001

Sub: Attachment of NMGHS coach with freight train over DFC routes

Ref: (i) Railway Board letter no. 2020/M(C)/650/2 dated 23.01.2023
(ii) Railway Board letter no. 2020/M(C)/651/1 dated 22.04.2022
(iii) Railway Board letter no. 2020/M(C)/202/4 VP dated 27.09.2022
(iv) Railway Board letter no. 2010/M(C)/650/2NMG dated 26.05.2022

In reference to above, DFCCIL vide ref (i) has requested to permit attachment of one NMGHS coach to a freight train running in DFCCIL. This issue has been examined at RDSO, and the following is brought out in this connection:

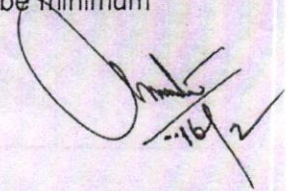
A. Mechanical Strength and Operational Compatibility:

1. NMGHS coaches have been converted from aged ICF design coaches which have rendered their service life, to run in dedicated rakes for transportation of Automobile / 2-wheelers and parcels with speed potential of 110 kmph with maximum payload - 18T, loading both from ends and from sides (platform) with wide doors.
2. Freight wagons are designed with higher capacity CBC and have centre sill throughout the length for transfer of loads. The load transfer arrangement in case of NMGHS is through solebar. NMGHS coaches are normally fitted with screw coupling and side buffers, however, it is understood that the NMGHS coaches converted for DFCCIL have been provided with CBC coupling. It needs to be ensured that the retro-fitment of headstock compatible for CBC as issued vide this office letter no. MC/CRN/REH dated 24.03.2017 has been carried out.
3. In the chapter "Marshalling" of Operating Manual for Indian Railways (Government of India, Ministry of Railway, Railway Board) under legend "Mixed Trains", the following has been specified:

Classifying a passenger carrying trains as a mixed train needs authorization by COM. On such train, coaching and goods stock shall normally, remain in one block (except where a deviation is permitted) and their marshalling will also be laid down by COM.

Normally goods stock should be attached next to engine and coaching stock inside the rear brake van.

4. From mechanical strength point of view, CBC fitted NMGHS coaches can be marshalled **only inside the rear brake van of the train, i.e. as 2nd last vehicle**, as coaching stock is not designed to take high buffing loads from trailing load as encountered in freight train operation. Moreover, there is no provision of handbrake or compartment of guard in NMGHS.
5. The slack in freight CBCs is significantly higher than in coaching. The cumulative slack at the end of the freight train builds up significantly. The slack will be minimum



in container type trains that run in consists with slackless draw-bar in between the wagons of the consist, **that is BLC/BLCM or BLL/BLLM**. This will ensure minimal jerk and damage to valuable consignment loaded in NMGHS.

6. In view of Mechanical Strength and safety considerations, NMGHS coach attachment has been considered only for freight rakes of standard one rake-length as running on IR for container type wagons (BLC / BLCM or BLL / BLLM).
7. For CBC fitted NMGHS in standard composition lengths of freight stock mentioned above, no infringements are foreseen in mixed rake with NMGHS coupled to container freight stock on curves in DFCCIL. IRSOD (BG), Revised 2022 Chapter IV(A) - Rolling Stock (Carriage & Wagon) also lays down same CBC buffer height limits for Coaching and Wagon Stock (at outer ends of units).
8. The Overall length of over Coupler faces is 22.297m in case of NMGHS. Attachment of extra NMGHS will not result in rake length infringement beyond fouling marks.
9. In most of the cases, the maximum permissible speed of above freight stock (Empty or Loaded) on DFC maintained track is 100 kmph, whereas the maximum permissible speed of NMGHS coach on IR track is 110 kmph. Thus in proposed formation, the maximum permissible speed of NMGHS coach will reduce to 100 kmph or the lowest permissible speed of freight train in which NMGHS coach is attached.
10. The Consignment loaded in NMGHS is required to be properly lashed to avoid shifting of loads due to excessive jerks and coupler forces in a mixed freight train.

B. Brake System Compatibility:

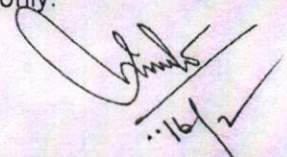
1. NMGHS is provided with twin-pipe air-brake system. Container type wagons (BLC / BLCM or BLL / BLLM) are provided with conventional twin pipe air-brake system with automatic load sensing device, with which NMGHS brake system is compatible with in twin-pipe mode and also single pipe mode in emergency.
2. At the time of attachment of NMGHS, 100% brake power in NMGHS coach needs to be ensured i.e. all the brake cylinders of NMGHS shall be operative as the same is marshalled **inside the rear brake van of the train**. In any condition, BP pressure in brake van of freight train in which one NMGHS has been attached shall not be below 4.7Kg/cm².
3. No increase in Emergency Braking Distance of rake is expected in view of higher deceleration of coaching brake system.

C. Maintenance of NMGHS:

1. Railway Board has issued "Guidelines for Operation and Maintenance of ICF design NMG/NMGH/NMGHS" vide letter at ref. (iv), wherein pitline maintenance of NMGHS has been stipulated over nominated base depots. A base depot nearest to DFCCIL will need to be nominated for maintenance of NMGHS.

In view of above, it is recommended that attachment of one NMGHS to a freight train running in DFCCIL, as requested by DFCCIL, may be permitted subject to following stipulations:

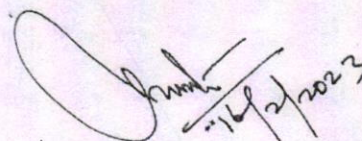
- (i) One NMGHS coach may be marshalled *inside the rear brake van of the train, i.e. as 2nd last vehicle* in freight rakes of standard one rake-length as running on IR for container type wagons (BLC / BLCM or BLL / BLLM) only.



- (ii) Only CBC retro-fitted NMGHS coaches as per applicable RDSO guidelines are permitted to be attached.
- (iii) The maximum permissible speed of freight train with NMGHS coach shall be 100 kmph or the lowest permissible speed of freight train in which NMGHS coach is attached, whichever is lower.
- (iv) The Consignment loaded in NMGHS shall be evenly loaded and properly lashed to avoid enroute shifting.
- (v) At the time of attachment of NMGHS, 100% brake power in NMGHS coach needs to be ensured i.e. all the brake cylinders of NMGHS shall be operative. Attachment shall normally be with twin pipes (FP and BP), however in emergency, single pipe mode can also be permitted.
- (vi) The BP pressure in brake van of freight train in which one NMGHS has been attached shall not be below 4.7Kg/cm².
- (vii) NMGHS shall be attached in freight train only after examination at nominated depot. All conditions applicable for examination of NMGHS as stipulated by Railway Board shall be followed.
- (viii) Items of GDR examination of the freight train when due will also be checked for attached NMGHS coach.
- (ix) Monitoring of damages / deficiencies / sick markings in NMGHS coach attached in freight trains may be carried out by DFCCIL for a period of 6 months and any abnormalities noticed may be brought to the attention of Railway administration promptly.
- (x) All stipulations for operation / loading of NMGHS as per applicable speed certificate issued by RDSO shall be followed.

Railway Board may take necessary action on above, and if agreed to, may also nominate base depots nearest to DFCCIL for maintenance of NMGHS, and guidelines regarding validity period of issued NMGHS BPC / endorsements on freight train BPC.

DA: NIL



(Samir Lohani)

Executive Director (Standards) / Carriage

Copy to:

ED/Wagon RDSO for kind inf. pl.

EDME/Freight Railway Board for kind inf. pl.

Brivani
JP & Division
Rwani

Trains notified and inducted						
Train No	Rake	Repl.	RLY	Composition	Coach waiting	Coaches Required
15231/32 BJU-G	4	4	ECR	LWLRRM-1, LSLRD-1, LWACCN-4, LWACCW-1, LWFCWAC-1, LWSCN-10, LS-4=22	LWLRRM-4, LSLRD-4, LWACCN-16, LWACCW-4, LWFCWAC-4, LWSCN-40, LS-16=88	Trains converted into LHB stock from 01.12.2022 onwards.
19053/54 ST-MFP	1	1	WR	LWLRRM-1, LSLRD-1, LS-4, LWSCN-8, LWACCN-6, LWACCW-2=22	LWLRRM-1, LSLRD-1, LS-4, LWSCN-8, LWACCN-6, LWACCW-2=22	Trains converted into LHB stock from 02.12.2022 onwards.
15651/52 GHY-JAT	1	1	NFR	LWLRRM-1, LSLRD-1, LWACCW-1, LWACCN-5, LWSCN-12, LWS-1, LWCBC-1=22	LWLRRM-1, LSLRD-1, LWACCW-1, LWACCN-5, LWSCN-12, LWS-1, LWCBC-1=22	Train converted into LHB stock from 05.12.2022 onwards.
20857/58 PURI-SNSI 22866/65 PURI-LTT 20813/14 PURI-JU	2	2	ECOR	LWLRRM-1, LSLRD-1, LS-3, LWSCN-9, LWCBC-1, LWACCN-5, LWACCW-1, LWFC-1=22	LWLRRM-2, LSLRD-2, LS-6, LWSCN-18, LWCBC-2, LWACCN-10, LWACCW-2, LWFC-2=44	Trains converted into LHB stock from 09.12.2022 onwards.
16231/32 MYS-MV 16235/36 MYS-TN 16233/34 MV-TPJ	4	2	SWR	LWLRRM-2, LS-2, LWSCN-13, LWACCN-3, LWACCW-1=21	LWLRRM-2, LS-2, LWSCN-13, LWACCN-3, LWACCW-1=21	3rd rake converted into LHB stock from 27.11.22 4th rake converted into LHB stock from 14.12.22.
15653/54 GHY-JAT	1	1	NFR	LWLRRM-1, LSLRD-1, LWACCW-1, LWACCN-5, LWSCN-12, LWS-1, LWCBC-1=22	LWLRRM-1, LSLRD-1, LWACCW-1, LWACCN-5, LWSCN-12, LWS-1, LWCBC-1=22	Train converted into LHB stock from 15.12.2022 onwards.
22851/52 SRC-MAQ 18009/10 SRC-AII 22830/29 SHM-BHUJ 22825/26 SHM-MAS	3	3	SER	LWLRRM-2, LWS-2, LWSCN-10, LWACCN-6, LWACCW-2=22	LWLRRM-6, LWS-6, LWSCN-30, LWACCN-18, LWACCW-6=66	Trains converted into LHB stock from 15.12.2022 onwards.
12853/54 DURG-BPL	2	2	SECR	LWLRRM-1, LSLRD-1, LWACCN-3, LWACCW-2, LWSCN-12, LWFCWAC-1, LS-2=22	LWLRRM-2, LSLRD-2, LWACCN-6, LWACCW-4, LWSCN-24, LWFCWAC-2, LS-4=44	Trains converted into LHB stock from 15.12.2022 onwards.
19813/14 KOTA-HSR 19807/08 KOTA-HSR	2	2	WCR	LWLRRM-1, LSLRD-1, LWACCN-4, LWACCW-1, LWSCN-12, LS-3=22	LWLRRM-2, LSLRD-2, LWACCN-8, LWACCW-2, LWSCN-24, LS-6=44	Trains converted into LHB stock from 15.12.2022 onwards.
15053-54 LJN-CPR 15083/84 CPR-FBD	4	4	NER	LWLRRM-1, LSLRD-1, LWACCN-6, LWSCN-8, LWACCW-2, LS-3=21	LWLRRM-4, LSLRD-4, LWACCN-24, LWSCN-32, LWACCW-8, LS-12=84	Trains converted into LHB stock from 16.12.2022 onwards.
22964/63BVC-BDTS 12941/42BVC-ASN	1	1	WR	LWLRRM-1, LSLRD-1, LWACCN-5, LWACCW-1, LSCN-10, LS-4=22	LWLRRM-1, LSLRD-1, LWACCN-5, LWACCW-1, LSCN-10, LS-4=22	Trains converted into LHB stock from 18.12.2022 onwards.
19260/59 BVC-KCVL	1	1	WR	LWLRRM-1, LSLRD-1, LWACCN-6, LWACCW-2, LWSCN-8, LS-3, LWCBC-1=22	LWLRRM-1, LSLRD-1, LWACCN-6, LWACCW-2, LWSCN-8, LS-3, LWCBC-1=22	Trains converted into LHB stock from 20.12.2022 onwards.
14623/24 FZR-CWA	3	3	NR	LWLRRM-1, LSLRD-1, LWACCW-1, LWACCN-2, LWSCN-7, LWS-6=18	LWLRRM-3, LSLRD-3, LWACCW-3, LWSCN-21, LWACCN-4, LWS-18=54	Trains converted into LHB stock from 22.12.2022 onwards.
12883/84 SRC-PRR	1	1	SER	LWLRRM-1, LSLRD-1, LS-2, LWS-8, LWS-2=14	LWLRRM-1, LSLRD-1, LS-2, LWS-8, LWS-2=14	Train converted into LHB stock from 22.12.2022 onwards.
12167/68 LTT-BSBS	3	3	CR	LWLRRM-1, LSLRD-1, LWSCN-2, LWACCN-10, LWACCW-4, LWFC-1, LWCBC-1, LWS-2=22	LWLRRM-3, LSLRD-3, LWSCN-6, LWACCN-30, LWACCW-12, LWFC-3, LWCBC-3, LWS-6=66	Trains converted into LHB stock from 25.12.2022 onwards.
16317/18 CAPE-SVDK	2	2	SR	LWLRRM-1, LSLRD-1, LWACCN-6, LWACCW-2, LWCBC-1, LWSCN-6, LS-2=19	LWLRRM-2, LSLRD-2, LWACCN-12, LWACCW-4, LWCBC-2, LWSCN-12, LS-4=38	Trains converted into LHB stock from 28.12.2022 onwards.
14311/12 BE-BHUJ 14321/22 BE-BHUJ	3	3	NR	LWLRRM-1, LSLRD-1, LWACCW-1, LWACCN-5, LWSCN-10, LWS-2=20	LWLRRM-3, LSLRD-3, LWACCW-3, LWSCN-30, LWACCN-15, LWS-6=60	Trains converted into LHB stock from 29.12.2022 onwards.
13425/26 MLDT-ST	1	1	ER	LWLRRM-1, LSLRD-1, LWACCN-5, LWACCW-2, LWSCN-9, LS-2=20	LWLRRM-1, LSLRD-1, LWACCN-5, LWACCW-2, LWSCN-9, LS-2=20	Train converted into LHB stock from 31.12.2022 onwards.
12834/33 HWH-ADI	2	2	SER	LWLRRM-1, LSLRD-1, LWSCN-11, LWACCN-3, LWACCW-2, LWCBC-1, LS-2, LVPH-1=22	LWLRRM-2, LSLRD-2, LWSCN-22, LWACCN-6, LWACCW-4, LWCBC-2, LS-4, LVPH-2=44	Trains converted into LHB stock from 03.01.2023 onwards.
Total	41	39			797	