



No. SV.AS.HC

Dated : 14.11.2007

The General Manager (Engineering),

- i. Northern Railway, Baroda House, New Delhi-110 001
- ii. Western Railway, Churchgate, Mumbai-400020
- iii. Central Railway, CSTM, Mumbai - 400 001-
- iv. Eastern Railway, Fairly Place, Kolkata- 700 001
- v. Southern Railway, Park Town, Chennai - 600 003
- vi. North Frontier Railway, Maligaon, Guwahati- 781 001
- vii. North Eastern Railway, Gorakhpur-273 001
- viii. South Eastern Railway, Garden Reach, Kolkata-700 043
- ix. South Central Railway, Secunderabad-500 071
- x. West Central Railway, Jabalpur-482 001
- xi. South East Central Railway, Bilaspur-495 004
- xii. South Western Railway, Hubli-580023
- xiii. East Coast Railway, Railway Complex, Bhubaneshwar-751 023
- xiv. East Central Railway, Hajipur-844 101
- xv. North Western Railway, Jaipur-302 006
- xvi. North Central Railway, Allahabad-211 001

Sub:- Final Speed Certificate for operation of HHP-DMU fitted with High Capacity (180kN) pneumatic suspension at secondary stage on track maintained to standards other than those laid down in C&M-I (Vol. I).

1. ICF has manufactured prototype HHP-DMU fitted with Pneumatic suspension (180 kN capacity) in secondary stage on DPC to ICF layout drg. no. DMU-DPC₁₀-9-0-001, fitted with 20.32t axle load bogie to ICF drg. no. DMU/DPC₅-0-0-502 and one trailer coach (TC) or DTC to ICF layout drg. no. DMU/TC₇-9-0-701 fitted with 16.25t axle load bogie to ICF drg no. DMU/TC₄-0-0-401.
2. Detailed oscillation trials were conducted upto a maximum speed of 115 kmph in empty and loaded condition over Lucknow-Faizabad-Varanasi section of Northern Railway. Results of these tests as contained in report no. RDSO/2007/TG/MT-797/F Rev.0 Dt.20.08.2007 indicate acceptable riding behaviour of test coach in empty and loaded condition upto a maximum speed of 115 kmph.
3. Based on above, it is certified that the above HHP DMU coaches are fit for operation upto maximum speed of 105 kmph over track laid to standards other than those specified in C&M-I, Vol.I, of Indian Railways subject to conditions given below.

3.1 Track

- 3.1.1 The track shall be to a minimum standard of 52 kg rails on sleepers to M+7 density and minimum depth of ballast cushion below sleepers of 250 mm which may consist of at least 100 mm clean and the rest in caked condition, on compacted and stable formation.

- 3.1.2 For track maintained to lower standard than that mentioned above, the Chief Engineer shall decide the lower maximum permissible speed on the basis of maintenance condition. In this connection, Railway Board's letter No. 65/WDO/SR/26 dated 19/20-10-1966 may be seen. When the Chief Engineer considers that the road bed is not compacted or there is improper drainage, he may suitably restrict the maximum permissible speed depending upon the local conditions.
- 3.1.3 The maximum permissible speed on curves to be decided on the basis of existing provision of the Indian Railway Permanent Way Manual, second reprint 2004 and should not be more than 90 kmph.

3.2 Bridges

- 3.2.1 The clearance refers to bridges with standard design of girders, slabs, pipe culverts, piers and abutments etc. issued by RDSO for BGML, RBG and MBG-1987 standard loadings. However, the bearings of span 78.8m (effective) designed for BGML standard loading as per RDSO's drawing no.BA-11154 should be strengthened by providing two additional anchor bolts.
- 3.2.2 Superstructures & bearings of non-standard spans including Arches and sub-structures of all bridges are to be examined under the directions of the Chief Bridge engineer concern and certified safe by him in terms of current IRS Bridge Rules, Steel Bridge Code, Concrete Bridge Code, Arch Bridge Code, Bridge Sub-Structures and Foundation Code etc. read with upto date correction slips.
- 3.2.3 Zonal Railways to certify the adequacy of existing bridges for permitting rolling stocks based on physical condition of bridges by keeping them under observations considered necessary the Chief Bridge Engineer of Railway.
- 3.2.4 Location of bridges on which speed restrictions are imposed shall be notified by the Railways and incorporated in the working time table.
- 3.2.4 The clearance is subject to the following parameters of HHP DMU Coach :-

Parameters	DPC	TC/DTC
(i) Maximum axle load (Design)	20.32 t	16.25 t
(ii) Axle load upto which clearance is given	19.95 t	13.31 t
(iii) Max. Tractive effort of DPC	15.2 t	---
(iv) Max. Braking force	5:1 t	4.09 t
(vi) Max. C.G. Height from Rail Level	Not to exceed 1830mm	

3.3 Signaling

- 3.3.1 Provisions of GR, SR, SEM & all extant instructions issued from time to time shall be complied with.
- 3.3.2 On the sections where EBD of more than 1 km is to be catered for, second distant signal or automatic signaling should be available failing which suitable speed restriction is to be imposed.

3.4 Rolling Stock


3.4.1 Before initiating the operation of the HHP-DMU, CME of the concerned Railway will certify the track worthiness and safety of the rolling stocks. He will also ensure proper maintenance of the rolling stock.

3.5 General

3.5.1 All the permanent and temporary speed restrictions in force and those that may be imposed from time to time due to track, bridges, curves, signaling and interlocking etc. shall be observed.

3.5.2 The profile of HHP DMU fitted with pneumatic suspension at secondary is identical to that of existing ICF coaches. There is no infringement with the provisions of IRSOD(BG), Revised 2004.

- Encl: 1. ICF drg. no. DMU-DPC₁₀-9-0-001,
2. ICF drg. no. DMU/DPC₅-0-0-502
3. ICF drg. no. DMU/TC₇-9-0-701
4. ICF drg. no. DMU/TC₄-0-0-401.




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Executive Director Standards (Motive Power)

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