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No.SV.EMU.RAS

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महाप्रबन्धक (इंजीनियरिंग)

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई- 400 001.
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001.
3. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली - 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई - 600 003.
5. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071.
6. दक्षिण पूर्व रेलवे, गार्डन रीच, कोलकाता - 700 043.
7. पूर्वोत्तर रेलवे, गोरखपुर - 273 001.
8. पूर्वोत्तर सीमान्त रेलवे, मालीगँव, गुवाहाटी - 781 011.
9. पश्चिम रेलवे, चर्चगेट, मुम्बई - 400 020.
10. पूर्व मध्य रेलवे, हाजीपुर - 844 101.
11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे काम्पलेक्स, भुवनेश्वर, उड़ीसा - 751 017.
12. उत्तर मध्य रेलवे, हास्टिंग रोड, इलाहाबाद - 211 001.
13. उत्तर पश्चिम रेलवे, जयपुर - 302 006.
14. दक्षिण पश्चिम रेलवे, हुबली - 580 023.
15. पश्चिम मध्य रेलवे, जबलपुर - 482 001.
16. दक्षिण पूर्व मध्य रेलवे, आर ई आफिस काम्पलेक्स, बिलासपुर - 495 004.

Sub: Final Speed Certificate for operation of DETC (Diesel Electric Tower Car) fitted with modified ICF bogies with air spring suspension at secondary stage upto maximum speed of 95 km/h on track maintained to other than C&M-I Vol.I standard.

1. DETC has been running with coil spring suspension at a maximum speed of 105 kmph on mainline track standards since 2002. Due to the imbalanced load distribution between engine side and observation side, there are frequent breakages of secondary springs, hangers, etc as reported by the Zonal Railways and maintenance has become a major issue.
To overcome the maintenance problem and to improve the riding quality of DETC, Railway Board has directed RDSO to introduce air springs in DETC having ICF type bogies.

DETC coaches have been fitted with pneumatic suspension at secondary stage to ICF's drg. no.DTC-9-0-003 alt-I. with bogie general arrangement drawing no DETC-0-0-001

- 1.1 Detailed oscillation trials and long confirmatory tests were conducted upto a maximum test speed of 105 kmph in empty and loaded condition over Nagda-Ujjain-Bairagarh section of Western Railway. The results of oscillation trials and long confirmatory tests of DETC Coach fitted with pneumatic suspension contained in RDSO's Report no.2008/TG/MT-892/F/Rev.0 dt.01.10.2008 indicate that DETC coaches fitted with pneumatic suspension exhibit satisfactory riding upto a test speed of 105 kmph.
2. On the basis of the above it is certified that the DETC coaches fitted with pneumatic suspension at secondary stage are fit for operation upto a maximum speed of 95 kmph on straight and station yard track and 75 kmph on 2^o curves on track maintained to other than C&M-I, Vol.I standards of Indian Railways subject to conditions given below.

2.1 Track

- 2.1.1 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 and track should be maintained to other than C&M-I Vol-I standard.
- 2.1.2 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 suitably compacted or there is improper drainage, he may suitably restrict the maximum permissible speed depending on the local conditions.
- 2.1.3 The maximum permissible speed on curves shall be decided on the basis of the existing provisions of the Indian Railways Permanent Way Manual, Second Reprint, 2004 but speed shall not exceed more than 75 kmph.

2.2 Bridges

- 2.2.1 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.
- 2.2.2 Superstructures and bearings of non-standard spans including Arches and sub-structures of all bridges are to be examined under the directions of the Principal

Bridge Engineer concerned 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.

2.2.3 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.

2.2.4 Location of bridges on which speed restrictions are imposed shall be notified by the Railways and incorporated in the working time table.

2.2.5 The clearance is subject to the following parameters of the DETC car:-

(i) Maximum axle load	= 20.32t
(ii) Maximum tractive effort	= 14t.
(iii) Maximum braking force at rail level	= 5.116t
(iv) Maximum C.G. height from rail level	= Not exceeding 1830 mm.

2.2.6 In case hauling by any locomotive, specific restrictions are applicable as mentioned in relevant speed certificates of hauling single/multiple locomotives issued by RDSO.

2.3 Signaling

2.3.1 Provisions of GR, SR, SEM & all extant instructions issued from time to time shall be complied with.

2.3.2 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.

2.4 Traction Installation

2.4.1 In 25 kV a.c. traction area, the CEE of the Railway shall have to ensure that the minimum height of contact wire and electrical clearances as stipulated in provision of Chapter-V and V-A, Electric Traction "Schedule of Dimension of 1676 mm gauge (BG) revised 2004" is not violated and strictly followed to ensure its safe running when pantograph and lifting cum swiveling platform are held in locked down and in collapsed condition.

2.5 Rolling stock

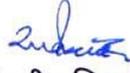
2.5.1 Before initiating the operation the above stock, CME /CEE of the concerned Railway will certify the track worthiness and safety of the rolling stocks. He will also ensure proper maintenance of the rolling stock.

2.6 General

2.6.1 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.

2.6.2 The profile of DETC coach fitted with pneumatic suspension at secondary stage does not infringe IRS Schedule of Dimensions (BG) Revised, 2004.

संलग्नक: 1) ICF's layout of Diesel Electric Tower Car drg. no. DETC-9-0-003.
2) ICF 's bogie general arrangements drg.no. DETC-0-0-001 .


(राजीव विशनोई)
वरिष्ठ कार्यकारी निदेशक
मानक/चालन शक्ति

प्रतिलिपि:-

- I. सचिव, (यांत्रिक/इन्जीनियरिंग, रेलवे बोर्ड, रेल भवन, नईदिल्ली-100 001
- II. महाप्रबान्धक (यांत्रिक/संचालन/संकेत एवं दूरसंचार/ विद्युत)
1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई- 400 001.
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001.
3. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली - 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई - 600 003.
5. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071.
6. दक्षिण पूर्व रेलवे, गार्डन रीच, कोलकाता - 700 043.
7. पूर्वोत्तर रेलवे, गोरखपुर - 273 001.
8. पूर्वोत्तर सीमान्त रेलवे, मालीगाँव, गुवाहाटी - 781 011.
9. पश्चिम रेलवे, चर्चगेट, मुम्बई - 400 020.
10. पूर्व मध्य रेलवे, हाजीपुर - 844 101.
11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे काम्पलेक्स, भुवनेश्वर, उड़ीसा - 751 016.
12. उत्तर मध्य रेलवे, हास्टिंग रोड, इलाहाबाद - 211 001.
13. उत्तर पश्चिम रेलवे, जयपुर - 302 006.
14. दक्षिण पश्चिम रेलवे, हुबली - 580 023.
15. पश्चिम मध्य रेलवे, जबलपुर - 482 001.
16. दक्षिण पूर्व मध्य रेलवे, आर ई आफिस काम्पलेक्स, बिलासपुर - 495 004.
17. इन्टीगरल कोच फैक्ट्री, चेन्नई - 600 038
18. रेल कोच फैक्ट्री, हुसैनपुर, कपूरथला - 144 602
19. बी.ई.एम.एल. बेंगलूर कामप्लेक्स, न्यू थिप्पासान्द्रा, पोस्ट बाक्स नं. 7501, बेंगलूर - 500 075

संलग्नक: 1) ICF's layout of Diesel Electric Tower Car drg. no. DETC-9-0-003 alt.I
2) ICF 's bogie general arrangements drg.no. DETC-0-0-001 .


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