# NORTH CENTRAL RAILWAY
## JOINT SAFETY CERTIFICATE
No 31/PURI-NDLS Exp (12801/12802)/GZB-MGS/NCR/2013

Based on RDSO speed certificate No. MC/LHB/Coach, dated 12.04.2012 (for all following mentioned LHB coaches except LS2 coach) and MC/LHB/Coach, dated 12.12.2012 (for second class Non AC EOG LHB coach LS2), **certified that it is safe to permit regular operation of PURI-NDLS Express train (12801/12802) by adding Second Class Non AC EOG LHB Coach (LS2) in its existing composition of 22 nos. AC/Non AC EOG LHB variants coaches (LWRRM-2 + LWACCN-4 + LWACCW-1 + LWSCN-12 + LWCBAC-1 + LS2-2 = 22 nos.) hauled by single WAP4/WAP5/WAP7 class locomotives over GZB-MGS (UP & DN) section of North Central Railway at a maximum speed of 130 kmph**, subject to observance of all permanent and temporary speed restrictions already in force and /or those that may be imposed from time to time due to track, bridges, curves, overhead equipment and signaling & interlocking etc.

| Train Nos. | Section | Proposed speed (kmph) | Sectional Speed (kmph) |
|---|---|---|---|
| PURI-NDLS Exp (12801/12802) | GZB-MGS (UP&DN) | 130 | 130 |

The primary maintenance depot of 12801/12802 is at Puri and the secondary maintenance depot is at New Delhi.

Further, Railway remarks on important para of RDSO speed certificate No. MC/LHB/Coach, dated 12.04.2012 (for all above mentioned LHB coaches except LS2 coach) and MC/LHB/Coach, dated 12.12.2012 (for second class Non AC EOG LHB coach LS2) are as under:

| **Speed Certifiate Para No** | **Para of RDSO Speed Certificate** | **Railway Remarks** |
|---|---|---|
| **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 depth of ballast cushion below sleepers of 250 mm, which may consist of at least 100 mm clean and the rest in caked up condition, on compacted and stable formation. | Minimum standard of track is 52 Kg (90 UTS) rails with sleepers to M+7 density & ballast cushion of 300/100 mm. |
| 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. 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. | The maintenance of GZB - MGS section comes under C&M-I Vol- I standard track. |
| 2.1.3 | The maximum permissible speed on curves shall be decided on the basis of existing provision of Indian Railways Permanent Way Manual Second Reprint-2004. | The maximum permissible speed on curves is as per Indian Railways Permanent Way Manual, reprint-2004. |

| | | |
|---|---|---|
| 2.1.3 of LS2 coach speed certificate | The maximum permissible speed on curves shall be decided on the basis of existing provision of Indian Railways Permanent Way Manual Second Reprint-2004 but should not exceed 110 kmph for curvature of track 2 degree and beyond 2 degree. However, in case of curve lower than 2 degree, maximum permissible spedd will be 130 kmph. | The maximum permissible speed on curves is as per Indian Railways Permanent Way Manual, reprint-2004. |
| 2.1.4 | Joggled fish plating of welds should be done as per provisions of para 6.4 and para 6.6 of chapter-6 of USFD Manual and para 6.3 of AT welding manual and policy instructions of Railway Board. Fish plating of rail should also be ensured as per para 251 of IRPWM-2004 regarding maintenance of rail joints. | Ensured as per chapter-6 of USFD Manual and para 251 of IRPWM-2004. |
| 2.1.5 | (i) Replacement of existing loose heel switches by fixed heel curved switches laid on PSC sleeper layout with CMS crossings with adequate arrangements for designed geometry of turnouts shall be ensured. Turnouts with TWS shall be preferred on such routes. | On GZB-MGS section, all T/Outs are on PSC with curved switches. |
| | (ii) Preferably Improved SEJ shall be provided on such routes. | Noted |
| | (iii) Improvement on track geometry parameters on the route of operation of the coaches/trains shall be carried out. | Noted |
| | (iv) The curves shall have to be suitably realigned and proper transition length shall be provided. | Proper transition lengths exists for curves except for locations on mentioned in annexure-A of track certificate where PSR are imposed. |
| | (v) All level crossings shall be manned. | All LCs are manned. |
| 2.1.5 of LS2 coach speed certificate | Zonal Railway may ensure further detailed examination of track as deemed fit based on age cum condition basis, overdue renewal and condition of formation etc. as per provisions of Chapter-III of IRPWM-2004 regarding permanent way renewals. | It will be ensured. |
| 2.1.6 of LS2 coach speed certificate | The track maintenance shall be in accordance with the recommendations contained in RDSO report no. C&M-I, Vol.-I. In this connection, the instructions for the maintenance of track on high-speed routes circulated to the railways under RDSO's DO letter no. CRA/509 dated 07-07-1971 and approved by Railway Board vides letter no. 71/W6/HS/8 dated 27.08.1971 and 71/W6/HS/1 dated 21.10.1971 should also be followed | It will be ensured. |
| **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 & MBG-1987 standard loadings. However, the bearings of span 78.8 meters (effective) designed for BGML standard loadings as per RDSO's Drg. No. BA-11154 should be strengthened by providing two additional anchor bolts. | Bearing of span 78.8 meters (effective) for BGML standard loadings has been strengthen by providing two additional anchor bolts. |
| 2.2.2 | Superstructures & bearings of non-standard spans including Arches and sub-structures of all bridges shall 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 | Superstructures & bearings of non-standard spans including Arches are safe |

<table>
<tr><td></td><td>Bridge Code, Arch Bridge Code, Bridge Sub-Structures and Foundations Code etc. read with up to date correction slips.</td><td></td></tr>
<tr><td>2.2.3</td><td>The above clause has been arrived considering bridges are in physically sound condition. Zonal Railway shall certify the adequacy of bridges for permitting rolling stocks based on physical condition of bridges.</td><td>Bridges are in physically sound condition of GZB-MGS section.</td></tr>
<tr><td>2.2.4</td><td>Location of bridges on which speed restrictions are imposed shall be notified by the Railways and incorporated in the working timetable.</td><td>There are no such bridges for imposed speed restrictions.</td></tr>
<tr><td>2.2.5</td><td>This clearance is subject to the following parameters of locomotives and LHB AC/NON AC EOG variant coaches and Generator Van:</td><td></td></tr>
<tr><td>(A)</td><td>For Locomotive:
<table>
<tr><th>SN</th><th>Description</th><th>WAP4</th><th>WAP5</th><th>WAP7</th></tr>
<tr><td>1</td><td>Max. axle load</td><td>18.8+2% t</td><td>19.5±2 %t</td><td>20.5±2%t</td></tr>
<tr><td>2</td><td>Max. tractive effort</td><td>30.8t</td><td>26.3t</td><td>32.9t</td></tr>
<tr><td>3</td><td>Max. braking force at rail level</td><td>22.3t</td><td>16.3t</td><td>26.5t</td></tr>
<tr><td>4</td><td>Max. CG height from rail level</td><td>Not exceeding 1830 mm</td><td>Not exceeding 1830 mm</td><td>Not exceeding 1830 mm</td></tr>
</table></td><td>Noted</td></tr>
<tr><td>(B)</td><td>For LHB AC/Non AC EOG Coaches:</td><td></td></tr>
<tr><td></td><td>i) AC First Class Coach (LWFAC)</td><td></td></tr>
<tr><td></td><td>Maximum Gross Load : 43.5t<br>Maximum Braking Force at Rail Level : 5.8t<br>CG height above rail level : Not exceeding 1830mm</td><td>Noted</td></tr>
<tr><td></td><td>ii) AC 2-Tier Sleeper Coach (LWACCW)</td><td></td></tr>
<tr><td></td><td>Maximum Gross Load : 46.72t<br>Maximum Braking Force at Rail Level : 5.8t<br>CG height above rail level : Not exceeding 1830mm</td><td>Noted</td></tr>
<tr><td></td><td>iii) AC 3-tier Sleeper Coach (LWACCN)</td><td></td></tr>
<tr><td></td><td>Maximum Gross Load : 48.8t<br>Maximum Braking Force at Rail Level : 5.8t<br>CG height above rail level : Not exceeding 1830mm</td><td>Noted</td></tr>
<tr><td></td><td>iv) AC (EOG) Pantry Car (LWCBAC)</td><td></td></tr>
<tr><td></td><td>Maximum Gross Load : 48.2t<br>Maximum Braking Force at Rail Level : 5.8t<br>CG height above rail level : Not exceeding 1830mm</td><td>Noted</td></tr>
<tr><td></td><td>v) Generator Van (LWLRRM)</td><td></td></tr>
<tr><td></td><td>Maximum Gross Load : 56.8t<br>Maximum Braking Force at Rail Level : 6.62t<br>CG height above rail level : Not exceeding 1830mm</td><td>Noted</td></tr>
<tr><td></td><td>vi) Non AG (EOG) 3-Tier Sleeper Class (LWSCN)</td><td></td></tr>
<tr><td></td><td>Maximum Gross Load : 47.8t<br>Maximum Braking Force at Rail Level : 5.8t<br>CG height above rail level : Not exceeding 1830mm</td><td>Noted</td></tr>
</table>

| | | |
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| 2.2.5 of LS2 coach speed certificate | The clearance is subject to the following parameters of Second Class Non AC EOG LHB variant Broad Gauge Coaches (LS2)<br>(i) Maximum Axle Load : 16.25 t<br>(ii) Maximum Braking force : 5.8 t<br>(ii)Max. CG height from Rail Level: Not exceeding 1830 mm | Noted |
| 2.2.6 | Specific restrictions are applicable as mentioned in relevant speed certificates of hauling single/multiple locomotives issued by RDSO. | It will be ensured. |
| **2.3** | **Signaling** | |
| 2.3.1 | Provisions of GR, SR, SEM & all extant instructions issued from time to time shall be complied with. | Shall be complied |
| 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. | EBD of rolling stock is 979 m in adding composition of LS2 coach train. |
| **2.4** | **Traction Installation.** | |
| | IN 25 Kv AC OHE | |
| 2.4.1 | The 25 kV AC OHE shall have swiveling type of cantilever Assembly having the tension in the conductors regulated automatically, with a presage. The presage of 50/100 is on contact wire for a span of 72 m, proportionately less for smaller spans. | Swiveling type cantilever existing in the section. |
| 2.4.2 | In case of locations where 25 kV AC porcelain section insulators are installed on main line and lie within first 1/10$^{th}$ and 1/3$^{rd}$ of the span, immediately after the OHE structure and the runners are in trailing direction, the maximum speed shall be 120/h. At all other locations where 25 kV AC porcelain section insulators are installed, the speed shall be limited to 80 km/h. | Porcelain section insulators are not provided on main line. |
| 2.4.2 of LS2 coach speed certificate | For DC OHE the condition of operation shall be specified by the CEE of the concerned Railways. | It will be ensured. |
| 2.4.3 | It is recommended that the cantilevers in the section should have BFB steady arm (RI No. 2390) with 25 mm Drop Bracket Assembly (RI No. 2360) instead of Tubular Steady Arm (RI No. 2520). Bent steady art at overlap locations shall continue. | BFB steady arm with 25 mm Drop Bracket Assembly has been provided on main line. |
| 2.4.4 | The current collection shall be made through one number pantograph fit for high-speed operation. | Current collection using Oliver "G" equipment is being done beyond 100 kmph. |
| 2.4.5 | In 25 kV AC traction area, the CEE of 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 Dimensions of 1676mm gauge (BG) revised-2004" with latest Addendum & Corrigendum Slips are not violated and strictly followed to ensure its safe running. | Minimum height of contact wire and electrical clearances as stipulated in provision of Chapter-V and V-A, Electric Traction "Schedule of Dimensions of 1676mm gauge (BG) revised-2004" with latest Addendum & Corrigendum Slips are not violated |
| 2.4.6 | In addition to the above, the Chief Engineer of the concerned Railway may impose any temporary speed restriction on the basis of personal knowledge | Not required. |

| | | |
|---|---|---|
| | experience of the Sectional OHE and the field conditions prevailing on the particular section. | |
| 2.5 | **Rolling Stock** | |
| 2.5.1 | Before starting the operation, CME/CEE of the concerned railway shall certify the track worthiness and safety of the rolling stocks. They shall also ensure proper maintenance of the stocks. | Proper maintenance of the stock will be ensured during primary maintenance before starting the operation. |
| 2.5.2 of LS2 coach speed certificate | The Wheel Slide Protection (WSP) device of all the coaches in the rake shall be functional at the starting station. If the WSP of any coach become defective enroute, the brake system of that particular coach shall be isolated. | It will be ensured. |
| 2.5.2 | Railways shall ensure that at the originating station 100% brake cylinders are operative and WSP of all the coaches are functioning. If the WSP of any coach becomes defective en-route, the brake system of that particular coach shall be isolate. En-route, if required, brake system of not more than one coach may be isolated and minimum 95% brake power must be ensured. | It will be ensured. |
| 2.5.3 | Brake system of the locomotive and coaches shall be in proper working order. | It will be ensured. |
| 2.5.4 | The earthing arrangement on the coaches shall be maintained as per design. | It shall be ensured that earthing arrangement on the coaches shall be maintained as per design. |
| 2.5.5 | The LHB AC/Non AC EOG variant coaches shall be maintained as per the "Preventive Maintenance system for LHB Coaching Stock" issued by Railway Board and instructions issued by RDSO & Railway Board time to time. | Maintenance of LHB coaches is being done as per "Preventive Maintenance system for LHB coaching Stock" issued by Railway Board & RDSO from time to time. |
| **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. | Shall be observed. |
| 2.6.2 | Attention is also invited to the note on "Preparation of Electrical Equipment of Diesel and Electric Locomotives for high speed operation" circulated with this office letter No. EL/3.3.15/WAM2/Gr. CON dated 24.12.1970 and the locomotives should be attended accordingly. | Locomotive are attended as per mentioned letter. |
| 2.6.2 of LS2 coach speed certificate | This coach infringes IR Schedule of Dimension (BG) revised – 2004, in respect of Clause No. 19 (b), 20 (b) of Chapter IV (A). Same infringements have already been condoned by Railway Board vide letter no. 2011/CEDO/SR/08 dated 28.03.2011 for Non AC Chair Car (EOG) LHB variant coach. Never the less, proposals for formal condonation in respect of the LS2 coach has been sent to CCRS vide RDSO's letter no. CT/DSH/3/Coaches, dated 03.12.2012. Commercial run of the coach may be done after receipt of formal condonation from Board. | Noted and Infringement (Form-XVII) certificate enclosed. |

<table>
<tr><td>2.6.3</td><td>LHB FIAT design of AC/Non AC EOG infringes clause of IR SOD 1973/2004. Railway Board vide letters tabulated below has condoned the infringements.
<table>
<tr><th>S N</th><th>Type of Coach</th><th>Clause no. of IRS SOD 1973/IR SOD 2004</th><th>Railway Board Condonation letter no.</th></tr>
<tr><td>1</td><td>AC Chair Car (LWACCZ)</td><td rowspan="2">13(b), 16, 17, 19(b), 20(b), 21(b), 22 and 32(b) of Chapter IV(A) of BG, SOD, 1973</td><td rowspan="2">97/CEDO/SR/3, dated 07.02.97</td></tr>
<tr><td>2</td><td>Power Car (LWLRRM)</td></tr>
<tr><td>3</td><td>AC three tier (LWACCN)</td><td>13(b), 16, 17, 19(b), 20(b), 21(b), 22, 31 and 32(b) of Chapter IV(A) of BG, SOD, 1973</td><td>2002/CEDO/SR/ 13 dated 10.12.2002</td></tr>
<tr><td>4</td><td>Non AC Sleeper class (LWSCN)</td><td>19(b), 20(b) of Chapter IV(A) of Indian Railway BG SOD, Revised 2004.</td><td>2011/CEDO/SR/ 1 04.10.2011.</td></tr>
<tr><td>5</td><td>Non AC Second class (LS2)</td><td>19(b), 20(b) of Chapter IV(A) of Indian Railway BG SOD, Revised 2004.</td><td>2011/CEDO/SR/ 08dt 28.03.2011</td></tr>
</table>
</td><td>Noted and Infringement (Form-XVII) certificate enclosed.</td></tr>
<tr><td>2.6.3 of LS2 coach speed certificate</td><td>Zonal railways shall ensure that the load of LS2 coach should not exceed more than its designed load i.e. 16T maximum (approx 200 passengers).</td><td>It will be ensured.</td></tr>
<tr><td>2.6.4</td><td>The design of WAP4 locomotive infringes clause 9(b), 12 and 13 Chapter IV (C) of the BG Metric Schedule of Dimensions 1929 (Reprint-1973). These infringements have been condoned by Railway Board their letter No. 96/CEDO/SR/10 dated 10.05.1996.</td><td>Noted and WAP4 loco is already in operations of Rajdhani trains.</td></tr>
<tr><td>2.6.5</td><td>The pantograph of WAP5 locomotive in locked down condition and the surge arrestors infringe the Maximum Moving Dimensions of 1929 over non-electrified sections. After removing the pantograph pan assembly and two surge arrestors, the profile will infringe the Maximum Moving Dimensions of 1929 but will be within 'X' class loco profile. For movement of the loco in non-electrified territory, pantograph can assembly and two surge arrestors shall be removed and the movement of the loco shall be cleared by the Railway concerned as per the extant rules applicable. In non-electrified section where Maximum Moving Dimensions of existing 'X' class locos are not permissible, the movement shall be in accordance with the instructions issued by Railway Board and other additional instructions issued by the Zonal Railways for the movement of ODCs. Railway Board</td><td>Noted, GZB-MGS section is fully electrified.</td></tr>
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|---|---|---|
| | have condoned these infringements of WAP5 locomotives vide their letter no. 95/CEDO/SR/18, dated 14.07.1995. | |
| 2.6.6 | The pantograph of WAP7 locomotive in locked down condition and the surge arrestors infringe the Maximum Moving Dimensions of 1929 over non-electrified sections. After removing the pantograph pan assembly and two surge arrestors, the profile will infringe the Maximum Moving Dimensions of 1929 but will be within 'X' class loco profile. For movement of the loco in non-electrified territory, pantograph can assembly and two surge arrestors shall be removed and the movement of the loco shall be cleared by the Railway concerned as per the extant rules applicable. In non-electrified section where Maximum Moving Dimensions of existing 'X' class locos are not permissible, the movement shall be in accordance with the instructions issued by Railway Board and other additional instructions issued by the Zonal Railways for the movement of ODCs. Railway Board have condoned these infringements of WAP7 locomotives vide their letter no. 2000/CEDO/SR/2, dated 17.02.2000. | Noted, GZB-MGS section is fully electrified. |
| 2.6.7 | The adequacy of the brake power available on the locomotives in conjunction with the coaching stock to be used in the proposed train, vis-à-vis the signalling system available on the route, shall have to be established. | It will be ensured. |
| 2.6.8 | Concerned Railways shall provide fencing as per their assessment to prevent unauthorized pedestrian/cattle crossings. | It will be ensured. |

22/1/14
**(S.K.Ahmad)**
**Chief Mechanical Engineer**

19/1/13
**(A.K.Rawal)**
**Chief Electrical Engineer**

(M. GARHWAL) 08/01/2014
**Chief Signal & Tele. Engineer**

18-1-13
**(U.K.Singh)**
**Chief Operations Manager**

22.1.2014
**(Satish Kumar)**
**Principal Chief Engineer**

No.355-W/Bridge Certificate/Pt-VIII,

Dated: 25.10.2013

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NORTH CENTRAL RAILWAY
BRIDGE ENGINEER'S CERTIFICATE

Based on RDSO's speed certificate nos. MC/LHB/COACH dated 12.04.2012 and MC/LHB/COACH dated 12.12.2012, certified that bridges on the sections given below are having minimum strength of super structure as indicated against the sections as per revised Bridge Rules –1964 and are safe for running of LHB trains comprising of 22 nos. AC and Non AC EOG LHB variant coaches hauled by single WAP-4/WAP-5/WAP-7 class of locomotives, up to the maximum speed indicated against the sections, subject to all temporary & permanent speed restrictions already in force and those that may be imposed from time to time.

| Section | | Line | KM | | % Strength | Max. Speed |
|---|---|---|---|---|---|---|
| From | To | | From | To | | |
| MGS | GZB | UP/DN | 677.28 | 1428.50 | 100% RBG | 130 Kmph |

Sub structure of all the bridges on the sections given above are in satisfactory condition and are safe for running of LHB trains comprising of 22 nos. AC and Non AC EOG LHB variant coaches hauled by single WAP-4/WAP-5/WAP-7 class of locomotives, up to the proposed speeds conforming to the provisions of revised IRS Bridge Sub structure and Foundation code-1985.

This clearance is subject to the following parameters of locomotives, LHB AC/Non AC EOG variant coach and Generator van –

| SN | Parameters | Locomotive | | |
|---|---|---|---|---|
| | | WAP4 | WAP5 | WAP7 |
| 1. | Max. Axle load | 18.8 + 2% t | 19.5 + 2% t | 20.5 + 2% t |
| 2. | Max. tractive effort | 30.8 t | 26.3 t | 32.9 t |
| 3. | Max. braking force at rail level | 22.3 t | 16.3 t | 26.5 t |
| 4. | Max. C.G. height from rail level | Not exceeding 1830 mm | | |

| SN | Parameters | LHB AC / Non AC (EOG) coaches | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | AC First Class coach (LWFAC) | AC 2- tier Sleeper Class coach (LWACCW) | AC 3-tier Sleeper Class coach (LWACCN) | AC Pantry Car (LWCBAC) | Generator van (LWLRRM) | Non AC 3-tier Sleeper Class (LWSCN) | Non AC Second Class (LS) |
| 1. | Max. Gross load | 43.5 t | 46.72 t | 48.8 t | 48.2 t | 56.8 t | 47.48t | 56.5t |
| 2. | Max. braking force at rail level | 5.8 t | 5.8 t | 5.8 t | 5.8 t | 6.62 t | 5.8t | 5.8t |
| 3. | CG height above rail level | Not exceeding 1830 mm | Not exceeding 1830 mm | Not exceeding 1830 mm | Not exceeding 1830 mm | Not exceeding 1830 mm | Not exceeding 1830 mm | Not exceeding 1830 mm |

This clearance is subject to the following parameters of second class Non AC EOG LHB variant BG coaches (LS2)–

| | | |
|---|---|---|
| 1. | Maximum axle load | 16.25t |
| 2. | Maximum Bracking Force | 5.8t |
| 3. | Max. CG height from rail level | Not to exceed 1830 mm. |

The specific restrictions are applicable as mentioned in the relevent speed certificates of hauling single/multiple locomotives issued by R.D.S.O. Speed restriction of 50 Kmph from substructure point of view to be observed on bridge no. 503 (UP/DN) at location 725/27-29 of block section PRE-JHG on MGS-ALD section of Allahabad Division.

(R. S. Rajpal)
Dy.CE/Bridge/HQ

Countersigned

23/10/13

(Ramésh Chandra)
Chief Bridge Engineer

NORTH CENTRAL RAILWAY

**TRACK CERTIFICATE**

Certified that track on the following sections of North Central Railway, the weakest portion of which as per details given under is to the required strength, which can safely permit for 'Running of Trains comprising of 22 nos. AC/Non AC LHB variants coaches indicated against each section as under, subject to observance of all temporary and permanent speed restrictions (as mentioned in Annexure 'A') in force and/ or imposed from time to time on various accounts. All conditions stipulated in RDSO's speed certificate no. MC/LHB/COACH dt. 12.04.2012 & 12.12.2012 for tracks is fulfilled except for C&M I (Vol.I) standards which are met with in about 85% length of track.

| Line | Section | | Kms | | Rails | | Sleepers | | | Ballast cushion (in mm) Total/Clean | Max. speed proposed (kmph) | Max. sectional speed existing in the section (kmph) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | From | To | From | To | Type | % of wear or year of laying | Type | Year of laying | Density | | | |
| DN | GZB | MGS | 1428.50 | 677.28 | 52 Kg,90 UTS | 2002 | PSC-5 | 1984 | M+7 | 300/100 | 130 | 130 |
| UP | MGS | GZB | 677.28 | 1428.50 | 52 Kg,90 UTS | 1991 | PSC-5 | 1991 | M+7 | 300/100 | 130 | 130 |

Countersigned

18/11/13

(S.N. Agrawal)
CTE

18/11/13

(S.K. Srivastava)
Dy.CE/TP

उ.म.रेलवे

Annexure-A

## PERMANENT SPEED RESTRICTIONS (MGS-GZB) UP LINE

| S.N. | Between Station | Location | | S.R | Proposed reason |
|---|---|---|---|---|---|
| | | From | To | | |
| **MGS-ALD UP LINE** | | | | | |
| 1 | KYT -CAR | 701/23 | 702/5 | 100 | Unusual vibration on bridge no. 479 |
| 2 | KYT -CAR | 704/5 | 705/19 | 100 | Inadequate transition length on curves |
| 3 | PRE-JHG | 725/27 | 725/29 | 50 | Physical condition of Br. 503 unsatisfactory |
| 4 | MZP-BDL | 742/23 | 743/27 | 100 | Inadequate transition length on 0.50° curve |
| 5 | BEO-GAE | 749/9 | 754/3 | 100 | Inadequate transition length on curve (1.16° & 0.45°) |
| 6 | NYN-ALD | 824/3 | 824/23 | 60 | Non transitioned curve(1.25°) on approch of Bridge. |
| 7 | ALD-YD | 824/1025 | 824/09 | 10 | 1 in 8.5 double slip daimond on loop line |
| **ALD-CNB UP LINE** | | | | | |
| 8 | ALD-SFG | 826/03 | 827/07 | 75 | 1 in 12 T/out taking off from outside of 2° curve |
| 9 | SFG-BMU | 828/5-7 | 829/3-5 | 75 | 1in 12 T/out taking off from inside of 1.2° curve |
| 10 | CNBI-YD | 1015/17 | 1016/DL-5 | 40 | Negotiation 1 in 12 cross-over |
| 11 | CNBI-CNB | 1016/DL-5 | 1018/DL-45 | 50 | Poor visibility due to curve 2° to 3° |
| 12 | CNBI-CNB | 1018/DL-45 | 1019/DL-01 | 30 | Poor visibility and heavily populated area |
| 13 | CNBI-CNB | 1019/3 | 1019/7 | 15 | Due to 1 in 8.5 T/out in yard. |
| **CNB-TDL UP LINE** | | | | | |
| 14 | CNB-YD | P.F.No.2,3,4,5,6 &7 | | 10 | Negotiating double slip diamond of 90R 1 in 10. |
| 15 | CNB-GOY | 1019/10A | 1019/17 | 65 | Single slip diamond in curve no.90 in GMC yard. |
| 16 | JUHI-W | 1021/09 | 1021/15 | 15 | Negotiating Diamond Crossing for movement via North to DN yard |
| **CNB-TDL UP LINE (3rd line)** | | | | | |
| 17 | CNB-GOY | 1019/23A | 1019/37A | 30 | Negotiating 1 in 12 Cross over |
| 18 | CNB-GOY | 1020/13A | 1020/17A | 65 | Inadequate transition length on 4° curve |
| 19 | GOY-PNK | 1025/15A | 1025/29A | 65 | Inadequate transition length on 4° curve |
| 20 | GOY-PNK | 1028/07 | 1028/09 | 30 | New turnout |
| **CNB-TDL UP LINE** | | | | | |
| 21 | ETW-YD | 1156/19 | 1156/25 | 110 | Inadequate transition on 0.50° reverse curves |
| 22 | MNR-YD | 1222/17 | 1222/25 | 120 | 1 in 12 T/out taking off from outside of transition portion of 0.50° curve |
| **TDL-GZB UP LINE** | | | | | |
| 23 | TDL-Yd | 1247/29 | 1250/15-17 | 65 | Double slip diamond xings on approach of 1.75° curve |
| 24 | TDL-Yd (Loop Line) | 1247/29 | 1247/33 | 15 | Negotiating 1 in 8.5 diamond for loop line |
| 25 | TDL-Yd | 1248/9 | 1248/39 | 30 | Damaged washable appron |
| 26 | TDL-Yd | 1249/17A | 1249/35A | 65 | Inadequate transition length due to sharp reverse curve. |
| 27 | ALJN-Yd | 1326/3 | 1326/7 | 100 | Poor visiblity due to 0.38° curve and heavily populated area |

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Annexure-B

| PERMANENT SPEED RESTRICTIONS (GZB-MGS) DN LINE | | | | | |
|---|---|---|---|---|---|
| S.N. | Between Station | Location | | S.R | Proposed reason |
| | | From | To | | |
| **GZB-TDL DOWN LINE** | | | | | |
| 1 | ALJN | 1327/4 | 1326/28 | 100 | Poor visiblity due to 0.35° curve and heavily populated area. |
| 2 | MTI-TDL | 1250/16 | 1247/30 | 65 | Double slip diamond xings on approach of curve |
| 3 | MTI-TDL | 1248/40 | 1248/14 | 30 | Track is weak due to bad drainage. |
| **TDL-CNB DOWN LINE** | | | | | |
| 4 | SKB-YD | 1212/34 | 1212/26 | 110 | 1 in 12 & 1 in 8.5 T/outs taking off from inside & outside of transition portion of 0.25° curve. |
| 5 | SKB-YD | 1211/26 | 1211/14 | 120 | 1 in 12 T/outs taking off from inside & outside of transition portion of 0.50° curve. |
| 6 | ETW-YD | 1156/18 | 1156/14 | 110 | Inadequate transition length on 0.63° reverse curves |
| 7 | PNK YD | 1029/16 | 1029/02 | 110 | T/outs taking off from inside/outside of 0.28° curve and inadequate transition length |
| **TDL-CNB DOWN LINE (4th line)** | | | | | |
| 8 | PNK-CNB | 1026/30A | 1019/28 | 75 | Sectional speed |
| 9 | PNK-GOY | 1026/32A | 1026/30A | 30 | New turnout |
| 10 | GOY-CNB | 1020/16A | 1019/2A | 65 | Inadequate transition length on 4° curve |
| **TDL-CNB DOWN LINE** | | | | | |
| 11 | JUHI/E | 1019/20 | 1019/12 | 65 | Diamond Xing on curve as per IRPWM para 416. |
| 12 | JUHI/C | 1020/26 | 1020/20 | 15 | South line use for down traffic. |
| 13 | STN/CNB | 1019/2 | 1019/4 | 15 | Due to X-ing for North line to South line. |
| 14 | CNB Yd | P.F. No. 1,2,3,4,5&6 | | 10 | 1 in10 double slip diamond |
| 15 | JUHI/W | 1021/18 | 1021/10 | 10 | Negotiating double slip diamond crossing. |
| **CNB-ALD DOWN LINE** | | | | | |
| 16 | CNB-CNBI | 1019/DL-2 | 1018/DL-46 | 30 | Poor visibility & heavily populated area |
| 17 | CNB-CNBI | 1018/DL-46 | 1015/DL-42 | 50 | Poor visibility due to curve 2° to 3° |
| 18 | CNB-CNBI | 1015/DL-42 | 1015/12 | 40 | Negotiating 1 in 12 cross-over. |
| 19 | SFG Yard | 830/0 | 829/26 | 120 | Inadequate transition length between reverse curves. |
| 20 | SFG Yard | 829/6 | 828/6 | 110 | 1in 12 T/out taking off from inside & outside of 1.34° curve. |
| 21 | SFG-ALD | 827/8 | 826/06 | 85 | 1 in 12 T/outs taking off from out side of 2° curve |
| 22 | ALD-Yard | 825/30 | 825/06 | 30 | Damaged washable apron. |
| 23 | ALD-Yard | 824/24 | 824/4 | 60 | Inadequate transition length on1.25° curve |
| **ALD-MGS DOWN LINE** | | | | | |
| 24 | ALD-NYN | 824/14 | 824/10 | 10 | 1 in 8.5 double slip diamond on loop line |
| 25 | NYN-COI | 816/38 | 815/38 | 125 | 1 in 12 T/out taking off from inside/ out side of 1.05° curve. |
| 26 | MZP-Yard | 736/16 | 735/12 | 90 | Non transitioned curves of 1.5° & 1° |
| 27 | PRE-JHG | 725/30 | 725/28 | 50 | Physical condition of Br. 503 unsatisfactory |
| 28 | DAP-CAR | 705/20 | 704/20 | 100 | Inadequate transition length of curves |
| 29 | CAR-Yard | 705/18 | 705/04 | 65 | Inadequate transition length between two reverse curves of 0.50° and 1 in 8.5 double slip diamond |
| 30 | CAR-Yard | 705/10 | 705/08 | 10 | Negotiating1 in 8.5 diamond crossing for loop line |
| 31 | CAR-KYT | 702/6 | 701/24 | 100 | Unusual vibration on bridge no. 479 |

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