

**NORTH CENTRAL RAILWAY
JOINT SAFETY CERTIFICATE**
(No. 39/BCNM1 (CC+8+2T)/NCR/2012)

Based on RDSO final speed certificate No. MW/SPD/BCN. M1/22.82t, dated 05.05.2011, certified that following B.G. sections of North Central Railway are safe for regular operation of "Broad Gauge Bogie Covered Wagon Type BCNM1" having maximum axle load of 22.82t to RDSO DRG. No. WD-05084-S-05 Alt.4 at a maximum permissible speed as indicated against each section tabulated below, subject to observance of all permanent and temporary speed restrictions in force and those will be imposed from time to time due to track, bridges, overhead equipment, signaling & interlocking, etc.


| SN | Section | | Line UP/DN/SL | Kilometer | | Maximum Proposed Speed in loaded/empty | Maximum sectional speed |
|----|---------|-------|------------------|-----------|---------|---|-------------------------------|
| | From | To | | From | To | | |
| 1 | MGS | GZB | UP & DN | 677.28 | 1428.50 | 60/80 | 130 |
| 2 | BINA | LAR | UP & DN | 977.00 | 1037.81 | 60/80 | 120 |
| 3 | LAR | AGC | UP & DN | 1037.81 | 1343.27 | 60/80 | 130 |
| 4 | AGC | PWL | UP & DN | 1343.27 | 1479.40 | 60/80 | 150 |
| 5 | MKP | BANSA | UP & DN | 1256.72 | 1254.70 | 60/80 | 110 |
| 6 | NYN | MKP | UP | 1349.46 | 1256.72 | 60/80 | 110 |
| 7 | MKP | NYN | DN | 1256.72 | 1349.46 | 60/80 | 100 |
| 8 | LINK | COI | SL | 1347.84 | 1348.65 | 15/15 | 15 |
| 9 | KID | BZM | SL | 1308.47 | 1427.12 | 60/80 | 100 |
| 10 | GOY | BZM | DN | 1344.95 | 1333.58 | 60/80 | 110 |
| 11 | BZM | GOY | UP | 1333.58 | 1344.95 | 60/75 | 75 |
| 12 | JHS | KID | SL | 1127.60 | 1308.47 | 60/80 | 100 |
| 13 | KID | MKP | SL | 1308.47 | 1419.22 | 60/80 | 110 |
| 14 | JHS | BZM | SL | 1127.72 | 1333.58 | 60/80 | 110 |
| 15 | CAR | CPU | SL | 143.07 | 243.00 | 60/60 | 60 |
| 16 | LKO | CNB | S/L | 69.86 | 71.00 | 60/80 | 100 |
| 17 | CNB | LKO | N/L | 69.86 | 71.00 | 60/80 | 100 |
| 18 | CNB | GMC | UP | 1019.00 | 1021.66 | 60/80 | 130 |
| 19 | GMC | CNB | DN | 1021.66 | 1019.00 | 60/80 | 130 |
| 20 | ETUE | MTI | SL | 1251.94 | 1254.94 | 60/60 | 60 |
| 21 | ALJN | HGJ | SL | 167.74 | 153.00 | 60/80 | 100 |
| 22 | KTT | MTJ | UP/DN | 1244.2 | 1243.00 | 60/80 | 130 |
| 23 | TDL | JAB | SL | 1248.51 | 1269.02 | 60/80 | 100 |
| 24 | IDH | AGC | SL | 1344.72 | 1343.27 | 30/30 | 30 |
| 25 | MTJ | AWR | SL | 1397.06 | 1515.90 | 60/75 | 75 |
| 26 | BXN | JAB | SL | 1.00 | 86.82 | 60/80 | 110 |
| 27 | AF | BKI | SL | 0.00 | 148.40 | 60/80 | 110 |

Further, Railway remarks on important para of RDSO speed certificate is as under for kind perusal:

| Para No. | Details of important paras' of RDSO Speed Certificate | Railway Remarks |
|------------|--|--|
| 2.1 | Track | |
| 2.1.1 | The track shall be to a minimum standard of 52 Kg rail (72UTS) on sleeper with M+ 7 density and minimum depth of ballast cushion below sleeper of 250 mm, which may consist of at least 100mm clean and the rest in caked up condition on compacted and stable formation. | Minimum standard of track is 52 kg (72UTS) rails with sleeper to M+7 density & ballast cushion of 250/100mm. |
| 2.1.2 | Wherever condition warrants on account of corrosion on rail/weld collar, wear of rail, cupping in the welds necessary precautions should be taken for fish plating/joggle fish plating of the rail/weld. | Necessary precaution is being taken for fish plating/joggle fish plating of the rail/weld. |
| 2.1.3 | Zonal Railways may impose such further restrictions of speed as deemed fit, based on the age and condition of track and the extent of the rail fractures/weld failures/defect generation rate occurring in the sections. | Ensured. |
| 2.1.4 | The maximum permissible speed on curves to be decided on the basis of the existing provision of Indian Railway Permanent Way Manual Reprint-2004. | As per Indian Railways Permanent Way Manual, reprint-2004. |
| 2.1.5 | For track maintained to a 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. When the Chief Engineer considers that the roadbed is not compacted or there is improper drainage, he may suitably restrict the maximum permissible speed depending upon the local conditions. This shall be applicable to loaded as well as empty wagons. | All sections of NCR are maintained to the stipulated standards and do not require lower maximum permissible speed. |
| 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 MGB-1987 standard loadings. However, the bearings of span 78.8m (effective) designed for BGML standard loading as per RDSO's drawing No.BA-11154 considering dispersion of the longitudinal force, shall be strengthened by providing two additional anchors bolts, so as to make the span fit for 50 kmph. | Strengthening of bearings of all 78.8m (effective) BGML standard loadings has been provided 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 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 up to date correction slips. | Superstructures & bearings of non-standard spans including Arches and sub-structures of all bridges are safe. |
| 2.2.3 | In loaded condition, the following restrictions are applicable: | |
| (i) | RBG/MBG/BGML span of 63.0m & 78.8m (effective) shall be restricted to 60kmph. | Have been restricted in Annexure-B of bridge certificate. |
| (ii) | For double headed operation, track on bridges and | All spans have been |

| | | |
|------------|---|--|
| | approaches of BGML spans 47.3m, 63.0m and 78.8m (all effective) shall be strengthened or modified in such a way so as to allow for dispersion of longitudinal force as per clause 2.8.3.2 of IRS Bridge Rules. In cases where dispersion cannot be allowed as per clause 2.8.3.2 such as due to provision of SEJ in bridges etc., the bridge superstructure including bearing and sub-structure shall be checked for longitudinal force without dispersion and certified safe by the Chief Bridge engineer concerned. | strengthened for allowing dispersion of longitudinal force as per clause 2.8.3.2 of IRS Bridge Rules and the bridge superstructure including bearings and sub-structure have already been checked for longitudinal force without dispersion. |
| 2.2.4 | Other specific restrictions are applicable which are indicated in relevant Speed Certificates of hauling single/multiple locomotives issued by RDSO shall be applicable. | Ensured. |
| 2.2.5 | This clearance is subject to the following parameters of wagon (i) Max. axle load (empty) = 6.8 t (ii) Max. axle load (loaded) = 22.82 t (iii) Maximum CG Height from Rail level (empty) = 1191 mm. (iv) Maximum CG Height from rail level (loaded) = 1809mm (v) Maximum braking force at rail level per axle = 10% of axle load. | Noted |
| 2.2.6 | The directives of RDSO for operation of CC+8t+2t, axle load 22.82 t communicated vide RDSO letter no. CBS/Golden/Q/Strengthen dated 21/27-07-2009 shall also be followed. | It will ensure as per Board's guide line. |
| 2.2.7 | Zonal Railways to certify the adequacy of existing bridges for permitting rolling stock based on physical condition of bridges by keeping them under observations considered necessary by the Chief Bridge Engineer of Railway. | Physical conditions of bridges are safe. |
| 2.2.8 | Location of bridges on which speed restrictions are imposed shall be notified by the Railways and incorporated in the working timetable. | Noted |
| 2.3 | Signaling | |
| 2.3.1 | Provisions of GR, SR, SEM & all extant instructions issued from time to time shall be complied with: | It will be ensured. |
| 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 for loaded stock is 616 m |
| 2.4 | Rolling Stock | |
| 2.4.1 | Before initiating the operation, CME of the Railway will certify the track worthiness and safety of the rolling stock. He will also ensure proper maintenance of the rolling stocks. | It will be ensured. |
| 2.5 | General | |
| 2.5.1 | 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. | Shall be observed |
| 2.5.2 | The design of BCNM1 wagon does not infringe to chapter | Noted. |

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|-------------------------|--|---------|
| | IV(A) of Indian Railway Schedule of Dimensions B.G. revised 2004. | |
| 2.5.3 | The validity of this speed certificate for operation of BCNM1 wagon axle load 22.82 t (CC+8t+2t) shall be up to the currency of the pilot project or regularization of project as stipulated by Railway Board. | Noted |
| 2.4.2 of rolling stock. | For movement of wagon on any private or assisted siding for loading or unloading the consignments, the Chief Engineer of Railway shall be referred to. | Ensured |

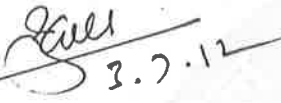

(S.K.Ahmad) 28/6

Chief Mechanical Engineer



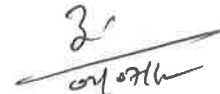
(A.K.Rawal)

Chief Electrical Engineer


3.7.12

(Anand Kumar)

Chief Signal & Tele. Engineer


01/07/12

(U.K.Singh)

Chief Operations Manager


4/7/12

(Satish Kumar)

Principal Chief Engineer