

NORTH CENTRAL RAILWAY

Headquarters' office
Engineering Department
Allahabad.

No.355-W/CRS/Trial/WDM3D loco/MTJ-AGC/145kmph/ NCR/Bridge. Dated:14.01.2011.

CME, COM, CEE, CSTE,

DRM/ AGC

Sub: Sanction for conducting detailed oscillation trials of WDM3D (earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogies up to maximum speed of 145 kmph on PWL-AGC section of North Central Railway .

Ref:-CRS/NE Circle letter No. 3499/WDM-3D/NCR/SANC-21, dated 11/12.01.2011
(Copy enclosed).


Based on RDSO's Speed Certificate No. SD.WDM-3D.11 dated 23.04.2010 and Railway Joint Safety Certificate No.73 / Trial / WDM3D locomotive / PWL – AGC / 145 kmph / NCR / 2010 (Copy enclosed), CRS / NE Circle vide letter under reference has accorded sanction for conducting detailed oscillation trials of WDM3D (earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogies up to maximum speed of 145 kmph on PWL-AGC section of North Central Railway.

This is for your information and further action please.

As above


14.1.11

(Sachin Verma)
Dy CE/Bridge/HQ


Sachin Verma

लीग्राम - 'कामरेल्स' लखनऊ

क्स नं० 0522-2234538

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सत्यमेव जयते

भारत सरकार
नागर विमानन मंत्रालय
रेल संरक्षा आयोग, पूर्वोत्तर परिमण्डल

GOVERNMENT OF INDIA
MINISTRY OF CIVIL AVIATION
COMMISSION OF RAILWAY SAFETY, NORTH EASTERN CIRCLE

दूरभाष : 2234515 (P.&T.)
Telephone : 23-291 (N Rly.)
: 31-141 (N.E. Rly.)



हजरतगंज, लखनऊ-226 001
Hazratganj, Lucknow-226 001

No.3499/WDM-3D/NCR/SANC-21

Dated : 11.01.2011.

मुख्य पोल अभियन्ता,
उत्तर मध्य, रेलवे,
इलाहाबाद ।

विषय : Conducting detailed Oscillation trials of WDM3D (earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogies up to maximum speed of 145 kmph on Palwal - AGC section of North Central Railway.

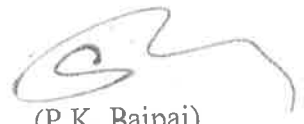
संदर्भ : आपके आवेदन पत्रसं.355-डब्लू/सी.आर.एस./ट्रायल/डब्लूडीएम-3डी लोको MTJ-AGC/145 kmph/एन सी आर/ब्रिज दिनांक 06.12.2010.

Sanction is hereby accorded for conducting detailed Oscillation trials of WDM3D class of locomotive (earlier name WDM3C+ locomotive) on the section Palwal - AGC on both UP & DN Line from km 1479.40 to 1343.27 of North Central Railway as specified in the Railways Joint Safety Certificate No.73/Trial/WDM3D locomotive/PWL-ACG/145 kmph/NCR/2010 and RDSO's speed Certificate No. SD.WDM-3D.11 dated 23.04.2010 upto a maximum speed of 145 kmph or maximum permissible speed of the section which ever is less.

2.0 The above sanction is subject to observance of the following stipulation and conditions :-

- 2.1 All temporary and permanent speed restrictions in force or those that may be imposed from time to time due to track, bridges, OHE, signalling & interlocking etc.
- 2.2 All conditions additional stipulations given in the Railways Joint Safety Certificate and Track & Bridge Certificate.
- 2.3 The detailed time table of trial may be sent to this office for information and record.

- 2.4 A copy of the trial report shall be submitted to this office on completion of the Oscillation trial, for study and record.
- 2.5 Railway Board had condoned the infringements as per Revised Schedule of Dimension 2004.
- 3.0 The sanction for the section on other Zonal Railway should be obtained from them.




(P.K. Bajpai)
Commissioner of Railway Safety,
North Eastern Circle, Lucknow.

No. No.3499/W.D.M-3D/NCR/

Dated : 11.01.2011.

Copy for information to :-

Chief Commissioner of Railway Safety, Ashok Marg, Lucknow.
All Commissioner's of Railway Safety.



(P.K Bajpai)
Commissioner of Railway Safety,
North Eastern Circle, Lucknow.



NORTH CENTRAL RAILWAY

Headquarters' office
Engineering Department
Allahabad.

No.355-W/CRS/Trial/WDM3D loco/MTJ-AGC/145kmph/ NCR/Bridge. Dated:06.12.2010.

To,
The Commissioner of Railway Safety,
North Eastern Circle,
Lucknow.

Dear Sir,

Sub: Sanction for conducting detailed oscillation trials of WDM3D (earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogies up to maximum speed of 145 kmph on PWL-AGC section of North Central Railway .

Based on RDSO speed certificate No. SD.WDM3D.11, dated 23.04.2010, it is proposed to permit conducting detailed oscillation trials of WDM3D (earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogies up to maximum speed of 145 kmph on PWL-AGC section of North Central Railway, subject to the following conditions:

- (i) Observance of all permanent and temporary speed restrictions already in force and/or those which may be imposed from time to time on various accounts.
- (ii) Observance of all conditions given in the RDSO's speed certificate no: SD.WDM3D.11, dated 23.04.2010 and concomitant Joint Safety Certificate, Track and Bridge certificate.

The following documents are enclosed herewith for kind perusal:

- (i) Joint Safety Certificate No: 73 / Trial / WDM3D locomotive / PWL-AGC / 145kmph / NCR / 2010.
- (ii) Track Certificate along with Annexure-A.
- (iii) Bridge Engineer's certificate.
- (iv) Infringement Certificate (Form-XVII).
- (v) RDSO speed certificate No: SD.WDM3D.11, dated 23.04.2010 along with Railway Board condonation letter no.2002/CEDO/SR/12, dated 13.11.2002.

You are requested to accord your kind sanction for conducting detailed oscillation trials of WDM3D (earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogies up to maximum speed of 145 kmph on PWL-AGC section of North Central Railway .

DA: As above




Chief Bridge Engineer 7.12.2010

**NORTH CENTRAL RAILWAY
JOINT SAFETY CERTIFICATE**

No 73/Trial/WDM3D locomotive/PWL-AGC/145 kmph/NCR/2010.

Based on RDSO speed certificate No. SD.WDM3D.11 dated 23.04.2010, certified that it is safe to conduct detailed oscillation trials of WDM3D (earlier name WDM3C+ locomotive) without equalizer class of locomotive on PWL - AGC section from km 1479.40 to km 1343.27 of North Central Railway to RDSO Drg. No 53.01.01 (Alt.-c) up to maximum proposed speed of 145 kmph, subject to observance of following conditions:

- All permanent speed restrictions as mentioned Annexure - A of track certificate as well as temporary speed restrictions already in force and /or those that may be imposed from time to time due to track, bridges, overhead equipment and signaling & interlocking etc.
- A watch shall be kept by RDSO on multi-span bridges to find out if there is any resonance tendency during trials.
- All the facing points of the route shall be clamped and pad locked in addition to the existing interlocking arrangement of setting and locking of points.
- Before resumption of regular passenger train service after the trial run, the signal and interlocking gears at the station shall be inspected and certified fit by the authorized representative of signal department.

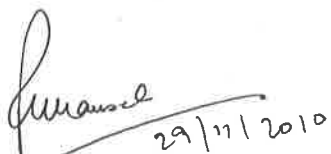
It is certified that all the conditions as stipulated in the RDSO speed Certificate No. SD.WDM3D.11 dated 23.04.2010 are fulfilled except the trials conditions, which will be fulfilled before starting the trial / during the trial as applicable.



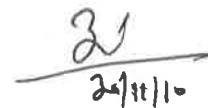
(Anand Kumar)
Chief Signal & Tele. Engineer



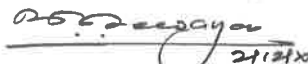
(R.K.Mehta)
Chief Electrical Engineer



(A.K.Kansal)
Chief Mechanical Engineer



(U.K.Singh)
Chief Operations Manager



(D.D.Dewangan)
Principal Chief Engineer

NORTH CENTRAL RAILWAY

FORM NO. XVII

Infringement of maximum and minimum dimensions for: conducting detailed oscillation trails of WDM3D(earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HASH bogie up to a maximum test speed of 145 kmph on track maintained to C&M-1 Vol-1 standard (PWL-MTJ-AGC) section of North Central Railway.

Gauge: **BG**

Section: **PWL-MTJ-AGC**

Railway: **North Central Railway**

Sr No	Location		Name of structure which infringe	Prescribed max. and min. dimensions of 1929 (Reprint 1973) Prescribed max & Min dimensions of revised -2004		Existing actual dimensions as per Drg. No. SK.DL-4518 (mm)	Amount of Infringement (mm)	Particular of sanction & remarks.
	Division & Section	Kilometerage		Chapter/ item	Max. /Min. (mm)			
1	PWL-MTJ-AGC Agra division			<p>Ch.IV(c) Item 11(ii) Max. width over all projections: (ii) From 305 mm. Above R.L to 1145 mm above RL when fully loaded Item 11(ii) Max. width over all projections: (ii) From 305 mm. Above R.L to 1082 mm above RL when fully loaded Item 12 Max. height above RL for a width of 305 mm. on either side of centre of empty locomotives. Item 12 Max. height above RL for a width of 760 mm. on either side of centre of empty locomotives.</p>	3050 3135 4115 4265	3074 3074 4340 4340	24 Nil 225 75	1.Speed certificate No.SD.WDM3D.11 Dated 23.04.2010 issued by Exe. Director Standards (Motive Power) RDSO/ LKO. 2. Infringement condoned by Railway. Board vide letter No.2002/CEDO/SR/1 2 Dated 13.11.2002.

[Signature]
 20/09/10
DY CE/ P&D
NCR/ALD

[Signature]
 29/9
DY CME/Diesel
NCR /ALD

[Signature]
 05/10/10
DY CEE/HQ
NCR/ALD

[Signature]
 3/10
DY CE/TP
NCR /ALD

NORTH CENTRAL RAILWAY
BRIDGE ENGINEER'S CERTIFICATE

Based on RDSO's speed certificate No. SD.WDM3D.11, dated 23.04.2010, certified that bridges on the section given below are having minimum strength of super structure as indicated against the section as per revised Bridge Rules -1964 and are safe for conducting detailed oscillation trials of WDM3D(earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogie up to a test speed indicated against the section below, subject to all the temporary & permanent speed restrictions already in force and those that may be imposed from time to time.


Section		Line	KM		% Strength	Max. proposed speed
From	To		From	To		
Palwal	Agra Cantt	UP & DN	1479.40	1343.27	100% BGML	145 kmph

Sub structure of all the bridges on the section given above are in satisfactory condition and are safe for conducting detailed oscillation trials of WDM3D(earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogie up to the test speed confirming to the provisions of revised IRS Bridge Sub structure and Foundation code-1985.

This clearance is subject to the following -

- 1.Maximum axle load = 19.7t
- 2.Maximum Tractive effort = 38.6t
- 3.Maximum Braking force at rail level = 17.94t
- 4 Maximum CG height from rail level= Not more than1830 mm.

A watch shall be kept by RDSO on multi-span bridges to find out if there is any resonance tendency during trials.


27/09/10

Dy CE/Bridge/HQ

Countersigned


27/9/10

(B.Chowdhary)
Chief Bridge Engineer

NORTH CENTRAL RAILWAY

TRACK CERTIFICATE

No.355-W/CRS/NCR.TP/10-11

Certified that track on the following sections of North Central Railway are maintained to the standards as recommended in RDSO's report no. C&M-1(Vol-I) and the weakest portion of which as per details given under is to the required strength for 'Conducting detailed oscillation trials of WDM3D (earlier name WDM3C+) locomotive without equalizer class of locomotive fitted with HAHS bogie' as per RDSO's drg.No. 53.01.01 alt© and SK.VL-460 alt(1) respectively on PWL-AGC sections' up to a maximum speed as indicated against each section as under, subject to observance of all temporary and permanent speed restrictions (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.SD.WDM3D.11 dtd. 23.04.2010 for tracks are fulfilled.

Line	Section		Kms		Rails		Sleepers			Ballast cushion (in mm) Total//C/1ean	Max. speed propose d (km/h)	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	AGC	PWL	1343.27	1479.40	90R	1972	PSC-5	1997	M+7	300/50	145	150
UP	PWL	AGC	1479.40	1343.27	90R	1972	PSC-5	84-85	M+7	300/0	145	150

Countersigned

[Signature]

CTE

1/10/10
Dy.CE/TP

PERMANENT SPEED RESTRICTION (PWL) -AGC - UP LINE

Annexure 'A'

SN	Between Stations	Location		Speed (Kmph)	Proposed reason
		From	To		
1	HDL Yard	1449.76	1449.57	139	Due to curve
2	KSV Yard	1439/05	1438/39	90	1 in 8.5 cross over on transition portion of 2.8° curve.
3	KSV Yard	1438.75	1438.60	139	Due to Curve
4	KSV-CHJ	1437/21	1436/15	120	Transition portion of 1.8° curve on girder bridge
5	VRBD-AJH	1407.88	1407.50	139	Due to curve
6	VRBD Yard	1406.22	1406.05	139	Due to curve
7	VRBD-MTJ	1398/29	1397/11	100	1 in 12 Turn out taking of from out side of 2° curve.
8	MTJ Passenger Yd	1398/13	1395/07	50	Std. I Interlocking
9	MTJ Yard	1397/11	1397/07	50	Negotiating 1in12 thick web switches.
10	MTJ Yard	1398.627	1397.747	105	Due to Curve
11	MTJ-BAAD	1395.46	1395.42	139	Due to Curve
12	MTJ-BAAD	1395.37	1395.19	139	Due to Curve
13	MTJ-BAAD	1394/21	1394/19	130	Main line T/out without thick web switch
14	MTJ-BAAD	1389/09	1387/18	110	1in 12 T/out taking off from reverse curve
15	RNKA-BFP	1350.896	1350.426	142	Due to Curve
16	RNKA-BFP	1349/09	1348/33	120	1in12T/Out taking off from in side/ out side of 0.75° curve.
17	BFP-AGC	1347/49	1345/15	80	2° to 2.5° curves
18	AGC Yard	1344/09	1341/23	50	Std. I Interlocking
19	AGC Yard	1343/37	1343/31	10	Diamond T/out and X-ing on wooden sleepers
20	AGC Yard	1342/39	1342/35	15	1 in 12 T/Out for Main lines trains

PERMANENT SPEED RESTRICTION (AGC-PWL) DN LINE

S. N.	Between Station	Location		Speed (Kmph)	Proposed reason
		From	To		
1	AGC Yard	1341/12	1344/12	50	Std. I Interlocking
2	AGC Yard	1342/36	1342/40	30	1/16 Turnout on wooden sleepers.
3	AGC Yard	1343/34	1343/42	30	Negotiation of 1in 12 T/Out
4	AGC-RKM	1345/14	1346/38	90	Inadequate cant
5	RKM Yard	1347/2	1347/48	70	Sharp Curve of 2.25°, poor visibility in RKM Yard
6	BFP Yard	1348/34	1349/10	120	Similar flexure T/Out on 0.75°
7	BAAD Yard	1386/16	1386/18	130	Main line T/out without thick web switch.
8	BAAD	1388/10	1388/20	130	Main line T/out with out thick web switch
9	BAAD-MTJ	1395.18	1395.36	139	Due to curve
10	BAAD-MTJ	1395.41	1395.56	139	Due to curve
11	MTJ Pass. Yard	1395/08	1398/12	50	Std. I Interlocking
12	MTJ Yard	1397.737	1398.637	105	Due to curve
13	MTJ Yard	1397/10	1397/14	50	Negotiation of 1in12 thick web switches
14	MTJ-VRBD	1397/30	1398/20	100	Inadequate cant on 2° curve and contrary flexure T/outs
15	CHJ-KSV	1435/36	1437/26	100	T/out on falling gradient.
16	KSV Yard	1438.60	1438.75	139	Due to curve
17	KSV Yard	1438/36	1439/06	90	Inadequate cant and cross over on transition portion.
18	HDL Yard	1449.57	1449.76	139	Due to curve
19	SHIK Yard	1460	1460.96	140	Inadequate ballast cushion (300/50)

20/11/18

1/11/18
Dy. CEITP

फोन नं. : 91522.2453916

तार : रेलमानक लखनऊ

Telegram : RAILMANAK Lucknow

टेलीफोन/टेली : 915222492463

e-mail : dmpcm@rdso.railnet.gov.in



भारत सरकार - रेल मंत्रालय
अनुसंधान अधिकांश उत्तर मानक संयोजन
लखनऊ - 226 011
Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011



An ISO 9001:2000
Organisation

No. SD.WDM3D.11

Dated: 23-04-2010

1. The General Manager (Engg.),
North Central Railway,
Allahabad-211 001.
2. The General Manager (Engg.),
Northern Railway,
Baroda House,
New Delhi - 110001.

Sub: Speed certificate for conducting detailed oscillation trials of WDM3D(earlier name WDM3C+ locomotive) without equalizer class of locomotive fitted with HAHS bogie up to a maximum test speed of 145Km/h on track maintained to C&M-1 Vol-1 standard.

3300hp WDM3D class of locomotive manufactured by DLW Varanasi has been fitted with high adhesion bogie (HAHS bogie) having axle load to 19.7t. To enhance the speed potential and to reduce the un-sprung weight of locomotive and eliminate the problems related to equalizing and compensating mechanism, bogie design without equalizing beam and compensating mechanism has been developed for locomotive. The locomotive has been provided with AC-DC transmission and microprocessor control to achieve higher tractive effort. The General arrangement and bogie General arrangement of WDM3D locomotive are as per RDSO's Drg. Nos. 53.01.01 alt(c) and SK.VL-460 alt (1) respectively.

2. In order to establish the speed potential of WDM3D class of locomotive fitted with high adhesion bogie without equalizing beam, it is proposed to conduct detailed oscillation trials on TKD-PWL-MTL-AGC section of Northern and North Central Railways up to a maximum speed of 145 km/h, subject to the following conditions:

2.1 Test train:

2.1.1 The test train shall consist of one WDM3D locomotive, an oscillograph car with all coil ICF bogies. The oscillograph car shall be equipped with air brake system. The car shall generally be maintained to the requirements of Technical Pamphlet No. C-8101. Air brake system of oscillograph car shall be maintained as per RDSO's Technical Pamphlet No.C-8805.

2.1.2 The detailed oscillation trials shall commence at a speed of 120 km/h and the speed shall be increased in steps not more than 10 km/h at a time up to 145 km/h. The increase in speed will be authorized by the Officer-in-Charge of the trials on the basis of riding observed in the preceding runs and after satisfying himself that from all considerations of safety, the runs at higher speeds can be permitted.

2.1.3 On completion of detailed oscillation trials, confirmatory runs may be made on about 30 km of Mathura junction - Agra Cant section subject to a maximum speed of 145 km/h. Conditions for carrying out confirmatory runs will be the same as those for detailed test trials except that increase of speeds in steps as stipulated for detailed tests will not be obligatory and the speeds for the confirmatory runs will be decided by the Officer-in-Charge of the trial on the basis of test results obtained during the detailed tests conducted earlier.

2.2 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 and maintained to the standards recommended in RDSO's report no. C&M-I, Vol.-I.

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 compacted or there is improper drainage, he may suitably restrict the maximum permissible speed depending upon the local conditions.

2.2.3 The maximum permissible speed on curves shall be decided on the basis of existing provision of the Indian Railway Permanent Way Manual, Second Reprint-2004. The trials on curve shall be done at a speed to simulate 100 mm cant deficiency subject to other conditions of IRPWM being fulfilled.

2.3 Bridges:

2.3.1 The clearance refers to superstructure & bearing of bridges of standard spans of girders, slabs, pipe culverts, piers and abutments etc. issued by RDSO for BGML, RPG 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.

2.3.2 Superstructures and bearings of non-standard spans including Arches and sub-structures of all bridges are to be examined under the directions of the 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 Foundations Code etc. read with up to date correction slips.

2.3.3 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.

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

2.3.5 This clearance is subject to the following parameters of WDM3D locomotive:

i) Maximum axle load	19.7t
ii) Maximum tractive effort	38.6t
iii) Maximum dynamic braking force at rail level	17.94t
iv) Maximum CG height from rail level	not exceeding 1830mm

2.3.6 A watch shall be kept on multi-span bridges to find out if there is any resonant tendency during trials. The trial report shall contain a remark on this aspect.

2.4 Traction Installation:

2.4.1 In 25 Kv a.c. traction area, the CEE of the Railway shall have to ensure the minimum height of contact wire and electrical clearances as stipulated in provision of Chapter-V and V-A, of Electric Traction "schedule of Dimension of 1676 mm gauge (BG) revised 2004" is not violated and strictly followed to ensure its safe running.

2.5 Signalling:

2.5.1 General

- a) Provisions of GR, SR, SEM and all extant instructions issued from time to time shall be complied with.
- b) All the facing points of the route shall be clamped and pad locked in addition to the existing interlocking arrangement of setting and locking of points.
- c) In the normal single phase 25KV AC electrified section where electric locomotive is used, provisions given in para 22.6, 22.7, 22.8, 22.9 & 22.10 of SEM Pt.II regarding maximum permissible length of track circuits, signal feeding, maximum permissible length for operation of Point motor, use of block instruments and use of AFTC/rel counters for higher catenary currents limited to 800A on single track section and 1000A on double track section shall be ensured by the Railway.
- d) The driver of the test train and supervisory official present in the driver's cabin shall so conduct the trial run that the speed is regulated and the test train is able to stop short of a stop signal at danger.
- e) Before resumption of regular passenger train service after the trial run, the signal and interlocking gears at the station shall be inspected and certified fit by the authorised representative of signal department.
- f) In case second distant signal (or automatic signalling in lieu) is not available, suitable speed restriction in approach of such stations shall be imposed by the Railway.
- g) Effective communication between guard and driver shall be provided.

2.5.2 Precaution for Automatic Signalling System Working:

- a) Automatic signalling, if any in the section shall be suspended. The operation of high speed trial run from section to section shall be on the principles of Absolute block system even in the sections of Automatic Signalling territory.

- b) For working the train on principle of Absolute block system in the automatic signalling territory, the Railway shall draw special working instructions for grant of line clear etc. in the absence of block instrument associated with the absolute block system.

2.5.3 Precautions for Absolute Block System Working:

For running through the test train at a station, the signals shall not be taken 'OFF' at the station unless:

- a) The section upto the station in advance is clear and the station in advance has confirmed that it has obtained permission to approach from the next station.
- b) At the station in advance the route for the run through of the train via main line is clear, correctly set and locked.
- c) All manned level crossing gates in a stretch of two block sections referred to above are closed to road traffic and locked.

2.6 Rolling Stock:

2.6.1 Before starting the trials, CME of the railway will certify the track worthiness and safety of the rolling stocks.

2.6.2 Brake of the locomotive should be in good working condition during the trials.

2.7 General

2.7.1 All the permanent and temporary speed restrictions in force and those that may be imposed from time to time due to track, bridges, curves, signalling and interlocking etc. shall be observed. In this connection, speed on curves shall be in accordance with para 2.2.3 of this speed certificate.

2.7.2 Gatemen at all level crossings occurring within the test stretch should be informed in advance of the dates and approximate time of the trial runs over the level crossings.

2.7.3 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 24-12-70 and the locomotive should be attended accordingly as applicable to this class of locomotive.

2.7.4 After every test run at speeds in excess of the maximum permissible sectional speed, resumption of public carriage of passengers and freight on that particular portion of the track may be permitted at the maximum permissible speed of the section, after the section is inspected and certified by an officer, not lower than the rank of AEN, on the foot plate of a locomotive or on a motor trolley following the test train.

However, wherever rear window inspection facility is available on the test train, the officer concerned can do the rear window inspection on the last run of the test train, in every block of testing for certifying fitness of the section.

- 2.7.5 The profile of WDM3D locomotive (earlier named as WDM3C+ locomotive) without equalizer beam as given in sketch no. SK.DL- 4518 infringes clauses 11 (ii) and 12 of Chapter (IV-C) of the BG Metric Schedule of Dimensions 1929 and others BG Schedule of Dimensions 1973 (Reprint). These infringements have been condoned by Railway Board vide their letter no. 2002/CEDO/SR/12 dated 13.11.2002.
- 2.7.6 The Oscillograph car has the design of IRY Shell fitted with IR-20 bogie that have similar design of shell and bogie to IRY AC Chair car and IRY AC Generator car. IRY AC Chair Car and IRY AC Generator van with 21770 mm length of the body and 12330 mm maximum distance apart between any two adjacent axles, infringes clause 19 (b) and 22 of chapter IV (a) of BG Metric schedule of dimensions, 1973. Railway board vide their letter No. 93/CEDO/SR/15 date 23/12/93 have condoned these infringements.
- 2.7.7 Detailed oscillation trials shall be conducted on locations/stretches covering straight track, station yards and curved track having about 2° curve. The trials on curve shall be done at a speed to simulate 100 mm cant deficiency.
- 2.7.8 Concern Railway will arrange for providing fencing as per their requirement to prevent unauthorized pedestrian/cattle crossings during trial.
3. It is certified that the test train as indicated in para 2.1.1 may be permitted to run up to a maximum test speed of 145 km/h on the test section as indicated in para 2 for trial purposes only subject to the conditions specified above, and shall not be quoted as precedent for regular operation.
4. It is requested that necessary CRS's sanction and Joint Safety Certificate for conducting the above trials may be obtained and communicated to the Director General (Testing), RDSO, Manak Nagar, Lucknow-226011.

Encl: RDSO Drawing No. 53.01.01 alt(c).

(S. Mani)

Exe. Director Standards (Motive Power)

Copy to:

1. The General Manager (Mech.), North Central Railway, Allahabad-211 001.
2. The General Manager (Mech.), Northern Railway, Baroda House, New Delhi 110 001
3. The General Manager (Mech.), Diesel Locomotive works, Varanasi-221 004.

Encl: Nil

(S. Mani)

Exe. Director Standards (Motive Power)