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Dated: 25.08.2016

No. MC/BG/COACH-26

महाप्रबन्धक (इंजीनियरिंग),

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस मुम्बई - 400 001
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001
3. उत्तर रेलवे, बडौदा हाऊस, नई दिल्ली - 1100 01
4. पूर्वोत्तर रेलवे, गोरखपुर - 27 3001
5. पूर्वोत्तर फ्रन्टियर रेलवे, मालीगाँव गुवाहाटी- 781 011
6. दक्षिण रेलवे, एनेक्सी, पार्क टारुन, चेन्नई - 600 003
7. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071
8. दक्षिण पूर्व रेलवे, गार्डन रीच, कोलकाता - 700 043
9. पश्चिम रेलवे, चर्च गेट, मुम्बई - 400020
10. उत्तर मध्य रेलवे, इलाहाबाद - 211 001
11. उत्तर पश्चिम रेलवे, जयपुर - 302 006
12. पूर्व मध्य रेलवे, हाजीपुर - 844 101
13. पूर्व कोस्ट रेलवे, रेलवे कॉम्प्लेक्स, भुवनेश्वर - 751 023
14. दक्षिण पश्चिम रेलवे, हुबली - 580 023
15. पश्चिम मध्य रेलवे, जबलपुर - 482 001
16. दक्षिण पूर्व मध्य रेलवे, बिलासपुर - 495 004

Sub: Amendment no. 01 to running of 26 coach trains with single WAM4/WAP1 Loco.

Ref: i) RDSO Speed certificate no. SD.POL.18.1 dated 26.03.1987

ii) North Central Railway email no. nil dated 12.3.2015 & letter no. NCR/Mech/751/Pt.-XXIII dated 12.3.15

Vide reference at (i) above, Speed Certificate for running of 26 coach trains with single WAM4/WAP1 Loco was issued on 26.3.1987. Vide letter referred at (ii) above, North Central Railway has requested to amend, introduction, subject speed certificate as the coupler force and Emergency Braking distance trials of 26 nos. BG ICF/RCF Air braked coaches. Accordingly, Para 4 have been deleted, Para 6 added, introduction, subject Para no. 2, 3 & 4 of said speed certificate have been amended, and shall be read as under: -

Currently Prayag Raj Express is running with 24 nos. BG ICF/RCF Air braked coaches fitted with Centre Buffer Couplers between New Delhi-Allahabad-New Delhi. RDSO conducted coupler force and Emergency Braking distance trials of 26 nos. BG ICF/RCF Air braked coaches fitted with Centre Buffer Couplers on Ghaziabad-Allahabad section which has been explained in Para 2 below.

Subject

Running of 26 coaches train with single WAP4 Loco.

Para 2

The coupler force and Emergency Braking distance trials of 26 nos. BG ICF/RCF Air braked coaches fitted with Centre Buffer Couplers on Ghaziabad-Allahabad section (both UP & DN line) of N.C. Railway at a maximum speed of 110kmph has been conducted. The results are contained in RDSO Report no. RDSO/2007/TG/MT-771/F ReV.-0 Amendment-Nil dated 09.05.2007. The

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Emergency Braking distance has found 1007m. Zonal Railway shall certify the necessary conditions for running such trains have been fulfilled and stopping stations have been provided with necessary facilities, like the required length and width of platform, removal of infringements, lighting & watering arrangements etc. on platform as per Addendum & Corrigendum Slip (ACS) No. 03 to Para no. 6.1(a) (ii) of Policy circular no. 6.

Para 3

Based on the results of above, the 26 ICF coaches ICF train hauled with single WAP4 Loco may be permitted to run up to maximum speed of 105 kmph on track maintained to other than C&M-I, Vol.-I standard and upto maximum speed of 110 kmph on track maintained to C&M-I, Vol.-I standard.

Para 6

On sections where Emergency Braking distance of more than 1.0 Km is to be catered for, a second approach signal shall be provided. On 3 aspect automatic territory where emergency braking distance of more than 1.0 Km is to be catered for, 4 aspect automatic signalling shall be provided. If not provided, suitable speed restriction shall be imposed.

संलग्नक: कुछ नहीं

(सी. मधुसूदन राव)

कार्यकारी निदेशक मानक/चालन शक्ति

प्रतिलिपि:

1. सचिव (यांत्रिक/इलेक्ट्रिकल/इंजीनियरिंग-जी), रेलवे बोर्ड, रेल भवन, नई दिल्ली-110 001.
2. मुख्य रेल संरक्षा आयुक्त, मण्डल रेल प्रबन्धक कार्यालय, पूर्वोत्तर रेलवे परिसर, अशोक मार्ग लखनऊ -226 001
3. महाप्रबन्धक (यांत्रिक, परिचालन, विद्युत, संकेत एवं दूरसंचार),
 - i) मध्य रेलवे, छत्रपति शिवाजी टर्मिनस मुम्बई - 400 001
 - ii) पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001
 - iii) उत्तर रेलवे, बडौदा हाऊस, नई दिल्ली - 1100 01
 - iv) पूर्वोत्तर रेलवे, गोरखपुर - 27 3001
 - v) पूर्वोत्तर फ्रन्टियर रेलवे, मालीगाँव गुवाहाटी- 781 011
 - vi) दक्षिण रेलवे, एनेक्सी, पार्क टाऊन, चेन्नई - 600 003
 - vii) दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071
 - viii) दक्षिण पूर्व रेलवे, गार्डन रीच, कोलकाता - 700 043
 - ix) पश्चिम रेलवे, चर्च गेट, मुम्बई - 400020
 - x) उत्तर मध्य रेलवे, इलाहाबाद - 211 001
 - xi) उत्तर पश्चिम रेलवे, जयपुर - 302 006
 - xii) पूर्व मध्य रेलवे, हाजीपुर - 844 101
 - xiii) पूर्व कोस्ट रेलवे, रेलवे कॉम्प्लेक्स, भुवनेश्वर - 751 023
 - xiv) दक्षिण पश्चिम रेलवे, हुबली - 580 023
 - xv) पश्चिम मध्य रेलवे, जबलपुर - 482 001
 - xvi) दक्षिण पूर्व मध्य रेलवे, बिलासपुर - 495 004
4. मैनेजिंग डायरेक्टर, कोंकण रेलवे कार्पोरेशन लिमिटेड, बेलापुर, नवी मुम्बई - 400614

संलग्नक: कुछ नहीं

(सी. मधुसूदन राव)

कार्यकारी निदेशक मानक/चालन शक्ति

SIV-27

Government of India
Ministry of Railways
Research, Design and Standards Organisation

Manaknagar,
Lucknow-226011.

Ec. SD. POL. 18.1

The General Manager
All Indian Railways

05 / 26/3

158 / 30/3

See No. 83

25-3-1987.

Serials 30, 31, 33 ✓
234, 36, 42
167

Sub: Running of 26 coach trains with single WAM, loco.

RE vide note No. 51/Coaching-11/3/6 dated 18.12.85
directed RDSO to conduct trials to augment the use of passenger
trains to 26 coach. Board vide their letter No. 85/COACHING/20
dt. 22.1.87 have decided that trials should be organised in
in Jan/Feb '87 so as to obtain CRB sanction for running of
Howrah-Kalka Mail between Delhi and Meerut and BIUP/9201
Express between New Delhi and Allahabad with a composition of 26
coaches with effect from 1.4.87.

2. Stationary trials and running trials to measure the coupler
forces and emergency braking distance trials of 26 coach train
hauled by a single WAM, locomotive were conducted on Eastern Ry
during Feb/March '87. The results of these trials are contained
in RDSO Mech Engg Report No. M-454.

3. Based on the results of these trials and the experience
gained in running of double headed superfast express trains, the
following guide lines are recommended for enabling successful
implementation of the above Board's decision.

A) FOR COACHING STOCK & CARRIAGE MAINTENANCE STAFF

(i) It would be necessary to ensure that all coaches pro-
posed to be run on this train are maintained to the
standards specified in RDSO technical pamphlet No. 7103.

(ii) It would be necessary to ensure that the coaches used
are fitted with draw gear and enhanced capacity screw
couplings to RDSO sk. Nos. 79061 and 79067. These
couplings are to be manufactured from steel to IS 60-51
and are to be tested for a proof load of 60t. Various
components have to be normalised/heat treated as per
details given in RDSO sk. Nos. mentioned above. The
components of the couplings should be subjected to exhaus-
tive tests for checking of cracks etc. before they are
fitted to the coaches. It would also be necessary to
fit the rubber pads of 1030 kg m capacity in the
gear and in the buffers. This is necessary to
considerably increase the shock absorbing capacity of

the draft and pulling gear which will in turn reduce the direct shocks being experienced by the draft gear. These pairs, when used in draft gear should be used with parting plates.

- (iii) ICF has started fitting enhanced screw coupling to RDSO Drg Nos 79061 and 79067 with higher capacity draft pads of 1030 kg m in draft gear and buffing gear on the coaches turned out by them with effect from July '83. All coaches turned out by ICF after that date can be used on this service.
- (iv) Instructions issued vide RDSO's letter of ^{no. 130/130} even number dated 23.4.82, limiting the total wear of various components on screw couplings and buffers for running of double headed trains should be followed for running these trains also.
- (v) The vacuum cylinders should be fitted with rubber rolling rings to Drg No VB 79 or VB 79/N, Alt.1 and not to any other drawing, as bigger dia of rings tend to cause sticky cylinders, thus creating problems in braking.
- (vi) The carriage staff as also the operating staff should be drilled towards ensuring that all couplings are fully tightened before train departure as any loose coupling tend to impart severe jerks on the draft gear thus resulting in its breakage.
- (vii) The links of the screw coupling should be pop marked at a distance of 250 mm so as to be able to check any elongation taking place in the links. The link should be examined once every week during the first 4 weeks and thereafter once every fortnight for a further period of 5 months so that any tendency for permanent set could be quickly identified. Instructions should be issued to the Carriage Maintenance Staff that if the links have elongated by more than 2 mm any time they should be immediately replaced. This elongated links shall be examined by your CMT. The investigation report with case history should be sent to Director NAG for scrutiny along with elongated link.
- (viii) A vacuum level of 560 mm in the loco and 530 mm in the brake van should be maintained.
- (ix) No defective vacuum cylinder should be permitted from the starting station. Not more than 3 inoperative cylinders may be permitted en route, if necessary.

B) - FOR LOCOMOTIVES & DRIVERS

- (1) It would be advisable to have nominated and selected crews operating the locomotives and these crews should be thoroughly drilled on the precautions required to be taken by them. The essentials of these instructions are enclosed at Annexure-I attached herewith.
- (11) During the initial 3 to 6 months period of running

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where trains, the drivers' performance should be continuously monitored either at the Senior Inspector's level or at the Officer's level in order to ensure that drivers have been properly educated and that they are following strictly all the instructions laid down for them.

- (iii) The instructions required to be followed by the drivers should be suitably stencilled in the locomotive cab and the drivers should be asked to sign a register in token of having understood these instructions before being allowed to drive these trains.
- (iv) The load meter of the loco proposed to be used should be marked with a red line so that the drivers do not exceed 900 amps current at start.
- (v) It would also be necessary to ensure that the proportionate air brakes for the locomotives are working so that whenever a brake application is made, the locomotive is braked proportionately to the vacuum brake applied on the train. This would avoid any severe jerks being felt on the couplings of the leading coaches.
- (vi) Locomotives nominated for hauling these trains should be fitted with a limiting valve set at 3.5 kg/cm^2 in the proportionate brake circuit.
- (vii) The transition couplings of the locomotives used for hauling these trains should be to strengthened design as per HDSO's Drg No. Sk.B. 2-9 alt. 5 and 2-9 alt. 3 (proof load 60t).
2495
- (viii) HDSO has advised, vide letter Nos. SD.DFM.A. 10 dated 28.12.1967 that the buffers of diesel locomotives should be brought forward by providing back up plate of suitable thickness (approximately 9 to 16 mm) at the buffer base so as to ensure that buffer face is + 10 mm ahead of the coupling line. It should be + 3 mm ensured that the electric locos used are so modified.
- (ix) The operating staff should be drilled towards ensuring that the loco transition couplings are fully tightened before train departure. Also, it should be ensured by the operating staff that before tightening the coupling, the rotating handle is in the 'central position' so as to take full advantage of the designed travel of the coupling. These precautions would alleviate the problems of gap between side buffers of the loco and the adjacent coaching stock.
- (x) The transition screw couplings should be checked for any permanent elongation, at the homeing shed, after each trip and elongated couplings should be replaced immediately.

PERFORMANCE OF THE TRAINING OF THE DOUBLED
INDIAN EXPRESS

Experience gained on the running of the doubled
Indian Express has revealed that one
of the reasons for the drivers not waiting for
a sufficiently long period, specially after
reducing the speed/stopping for Engineering
restrictions was out of their anxiety to maintain
Sectional timings. At present, perhaps only
3 minutes are allowed for a stop-dead restriction
whereas the actual minimum time required for such
restrictions is 5 minutes, if the driver strictly
follows the waiting period prescribed by the ERSO
after commencement of release of brakes before
he starts again. You may like to discuss this
matter with the COPG and issue instructions to
the drivers in regard to Engineering restrictions
and other unscheduled stops so that the drivers
do not work under the risk of losing punctuality
on this account.

Amended.
See S/O
33

(ii) It would be necessary to provide an efficient and
reliable communication system between the Guard
and the Driver to enable the Guard to advise the
Driver the level of vacuum obtaining in the Guard's
van before the driver starts his train after every
halt.

(iii) During ERSO's trials it was seen that under cer-
tain conditions the coupler forces are exceeding
the permissible limit of 36t but are still below
the proof load of 60t. These conditions are
briefly as follows:-

- (a) Alarm Chain Pulling from last coach after 15/30
seconds of start of train with maximum possible
acceleration.
- (b) Guard's Van valve application after 15 seconds
of start of train with maximum possible accel-
eration.
- (c) Guard's Van valve application after 30 seconds
of start of train with maximum possible accel-
eration on 1 in 200 UP grade.

It is considered necessary that the running staff
working on these trains and the inspectorial staff
concerned with operation of the train are suitably
educated to avoid such conditions during the opera-
tion of the train as far as possible.

(iv) The trials conducted by ERSO with single WAG, loc-
omotive have indicated an emergency braking distance
of 1185 m on level and 1315 m on 1 in 200 down
gradient with full vacuum level of 545 mm and 90%
operative vacuum cylinders. Railways may keep this
information in mind while deciding speeds at the
approaches of such of the stations on the section
on which these trains will be running where adequate
inter-signalling distances may not be available.
Also at stations having approaches on steep grade.

50/4
ents, Railways and impose suitable speed restrictions, the exact location and the speed restriction may be decided by the Railways after taking into account the existing local conditions.

4. To gain experience in running such trains the load of the train to start with may be limited to 24 coaches. This train will be hauled by a single WAP-4/WAP-1 locomotive upto a maximum speed of 105 kmph. Based on the performance of the couplers as indicated above, a decision would be taken/in due course of time after the introduction of longer train whether it would be feasible to increase the load to 25/26 coaches.

5. Before introduction of regular train service with 24 coaches, it is upto the Railways concerned to decide whether they would like to make service trials to assess revised inter-sectional running times.

DA: 1 Annexure

H. Gopalakrishnan
(H. Gopalakrishnan)
for Director General (motive Power)

Copy to:-

The Secretary (Coaching/Mechanical)
Railway Board
New Delhi

DA: 1 Annexure

H. Gopalakrishnan
(H. Gopalakrishnan)
for Director General (motive Power)

SPECIAL INSTRUCTIONS TO BE OBSERVED BY DRIVERS
OF THE COACH TRAIN

1. Drivers should create the required vacuum level by putting the DVB handle in 'Release' position and ensuring that vacuum remains stable when DVB handle is brought back to Run position.
2. Drivers should not start the train at motor current higher than 900 amp under any condition and in case of any difficulty observe instruction (1) above.
3. Drivers must wait in each notch for sufficient time, 15 seconds before raising the notch position higher.
4. Drivers should wait for at least 3 minutes after each full service/emergency brake application and during these 3 minutes they should follow the instructions given in (1) above.
5. While stopping the train, the locomotive brakes should be 'ON'. If the driver puts the automatic brake valve handle to release position before the train has actually come to a halt, the locomotive independent brakes should be applied to obtain a brake cylinder pressure of 1 to 1.5 kg/cm².
6. As soon as the driver notices a drop in the vacuum in the locomotive either on account of alarm chain pulling or due to application of Guard's van valve by the Guard, he should immediately apply the service brakes to reduce the draw bar force.

B - SPECIAL INSTRUCTIONS TO BE OBSERVED BY GUARDS

The Guard should not use his van valve for stopping the train and should make use of the communication equipment provided between him and the driver to communicate any emergency to the driver. Only in case of failure of the communication provided, the Guard shall apply brakes through guard van valve and for this purpose also, the Guard should be suitably trained so that vacuum is gradually dropped.