

Introduction of Long Haul Train

A composition of more than one standard train formation is defined as Long Haul train. The constituent trains may be empty or loaded. The running of long haul trains will help in reducing the congestion in busy sections thereby increasing the throughput. It has added advantage of increasing the speed of rolling stocks as a result of reduction in number of trains. These trains run with planned nomenclature on zonal Railways. Long haul trains run in nominated sections only. The name like Maruti, Python will be prefixed with train name and clearly marked in FOIS & control charts. Separate Colour code will be provided in FOIS and control charting to distinguish these trains from other trains. It shall be relayed to station masters of adjoining stations while asking line clear. These rakes only be formed at notified stations with TXR presence. In case, there is no TXR point, TXR should be arranged at that point. In case of precedence, crossing of passenger carrying trains and during exceptional circumstances, the train may be split at any station with adequate precautions.

Composition of long haul train

Front Load	Rear load
Empty Train	Empty Train
Loaded Train	Loaded Train
Loaded Train	Empty Train

General requirements for long haul train

1. The long haul trains can be BOXN/BCN/container or steel rakes with single/twin pipe air brake system.
2. The maximum speed of long haul train shall be restricted to lower of the maximum speed of constituent train.
3. Identified sections for long haul trains will be provided additional / special T/G boards for long haul trains.
4. Due to curve, length or visibility obstructions when it is not possible to exchange signals physically, the exchanging of signals shall be done by using Walkie-Talkie sets. If Walkie-Talkie communication fails, the long haul train shall be brought to stop at the next station & should not be continued.
5. Loco pilot selected from "A/B category, well conversant with the section and with adequate experience only should be nominated to work Long Haul train. Names of such LPs screened and nominated for Long Haul trains should be displayed in the crew booking lobbies.
6. On middle loco, crew will be provided. Loco pilot of middle loco will notch up throttle as per advice of loco pilot of leading loco. Prescribed whistle code shall be used for communication between LP & Guard.
7. In case of train parting, G&SR Rule (Train Parting) should be strictly followed.

Technical requirement for Long Haul Train

A. Locomotive

1. Single/ MU loco as per haulage capacity of the loco to the haul the train shall be provided for long haul train in leading for smooth operation.
2. In case of loaded-loaded or loaded–empty combinations hauled by electric locomotives, atleast five compressors of the leading MU unit will be in “ON” condition. Locomotive in the middle of the LH Rake are not permitted to charge the brake pipe. Leading locomotive will work the train and trailing locomotives will be just a piped vehicle that can provide additional power when required.
3. It should be ensured that RB/DB of leading locomotives are in working condition.

Long haul loco operation without use of distributed power system in tabulated as under;

Locomotive	BP Creation	Powering	Braking	Emergency Braking
Leading Loco(S)	Yes	Yes	Yes	Yes
Middle Loco (S)	No	Yes/ No #	No	Yes

= May be selected on the basis of Load hauled

B. Loco Crew

1. The long haul trains shall be started from originating station by exchange of physical signals (flag or light and whistle by guard between guard and loco pilot.
2. Nominated Loco Pilot should only be selected from “A/B” category well conversant with the section and with adequate experience.

3. Before restarting the train after brake application, the loco pilot shall ensure that BP pressure in engine and in the brake van has been restored. The Guard in the rearmost brake van shall confirm this to the loco pilot in the leading loco. A minimum 5 minutes release time shall be ensured by driver in section before restarting the train.
4. While observing the caution order, loco pilot should notch up and notch down judiciously and control the train by RB as far as possible minimizing the use of train brakes. Entry and Exit into RB and out of it should be gradual for first two notches allowing 10-20 seconds for first two notches each.
5. At the time of starting of two loaded or one loaded & one empty rakes combination, Middle Loco Pilot (MLP), shall first take two notches and confirm the same to the Leading Loco Pilot (LLP) through Walkie-Talkie. Then LLP shall start notching up. The MLP shall then coordinate with LLP for further notching.
6. In case of loco of long haul train is changed on any account, the air brake system of the full load should be released to avoid brake binding.

C. C&W (Carriage & Wagon)

1. The two rakes clubbed in Long Haul trains shall have valid BPC s for individual rakes separately.
2. Two separates rakes with separate valid BPCs shall be clubbed and worked as one train. To ensure safe operations of such trains, carriage & wagon staff will issue a separate Air Pressure Continuity Certificate. Air pressure continuity test shall also be conducted before start.

3. While starting the Long Haul train, minimum BP pressure in engine shall be 5 Kg/cm² and in the rear brake van 4.7 Kg/cm².
4. 8-wheeler brake van, if available, shall be marshaled in between the two empty rakes. If both brake vans are 4-wheeler, both shall be attached in rear of the train.
- 5.. Divisions shall follow instructions given in G&SR for detaching wagons on account of hot axle, flat tyre etc. in long haul trains.

D. Communication:

1. Pre tested VHF sets of adequate power with spare battery should be provided to Loco Pilots and Guards for reliable communication during run.
2. The entire crew shall ensure before start that their walkie-talkie sets are in working order and communication is smooth from front to the rear of Long Haul train.
3. Crew shall use walkie-talkie*set to facilitate exchange of all right signals in case of inadequate visibility due to long length of Long Haul train.
4. The divisions shall ensure suitable walkie-talkie sets are provided to the entire crew of Long Haul train for better communication along the route.
5. The Long Haul train shall not be operated during all Communication failure or in Temporary Single Line working.

E. Operating (Traffic)

1. The Long Haul trains shall be run on single line clear. The tail board / tail lamp as the case may be, shall be provided only in rear of the rear-most vehicle. No tail board/ tail lamp as the case be, shall be provided in rear of the middle brake van.
2. Air pressure shall be created by leading locos only. The middle / banker locos will not be charging the BP. Brake shall be applied only by the LP of leading loco and LP of middle/ banker loco shall bring his loco on idle on application of brakes by the leading LP.
3. The maximum speed of LH train shall be 60 Kmph for loaded rake or booked speed of stock/ loco for empty long haul; subject to other speed restrictions in force from time to time.
4. The loco pilot of middle/ banker loco shall push the train as per requirement in co-ordination with LP of leading loco.
5. The Guard of the rear most brake van shall be in-charge of long haul train, however middle brake van shall also be manned.
6. The guard of the long haul train shall ensure safety of rear portion of train to avoid rolling down (application of hand brakes) when stabled after shunting.
7. Guard of the train will communicate over walkie-talkie about clearance of speed restrictions zones and cross over to the Loco Pilot of the train.

8. As far as possible section controllers will ensure that through line clear is given to long haul trains to avoid detention to the following trains.
9. All rules of G&SR for working of trains shall be applicable for running of long haul trains also.
10. Marshalling of rakes shall be such that, Loaded rake is always the leading rake followed by empty rake.

F. Other Important Instructions:

1. Repercussions caused due to any failure related with long haul trains being run on trail may be booked on "OTHERS" account.
2. First ten trial trips of long haul trains on a particular section should be monitored by deputing LI and TI on the locomotive and rear brake van. Running of long haul trains will be reviewed on the basis of joint reports, highlighting shortcomings observed during the run submitted by divisions.
3. For monsoon working, sanders of all locos should be in working order and monsoon time table for deployment of locos should be followed.
4. Running of long haul trains should be covered in ZRTI syllabus as soon as possible.
5. All crew working long haul trains and PCOR/ TLC/ CCOR should be given a pamphlet containing instructions on long haul trains.

6. If required, divisions may issue local instructions based on this JPO to take care of specific topography, operating issues etc.
7. Sr. DSOs of the divisions and Safety Counselors should carry out checks on such trains to ensure that violation of safety rules is not taking place.
8. In case of train parting, longer front portion may be cleared to next suitable capacity loop line station and rear portion may be taken at rear or front stations according to situation and availability of locomotive.

Long Term Strategy for long term movement :

Following methodology is suggested for long term movement plan of long haul train on IR network :

Operation of loaded long haul trains heavier than 9000T :

For operation of loaded long haul trains heavier than 9000T and at a speed above 60 Kmph. RDSO shall conduct field trials with different class of locos to determine EBD before permitting such operation.

Introduction of twin pipe on goods train :

This can be started from BCNHL, BOXNHL & BLC type wagons to begin with and later adopted on all BOXN type and BCN type wagons. Single pipe system has problem of b/k pressure fading and propagation delays in application and release of brakes. In case of emergency braking, release is seen to take longer than 950 sec. in initial trail. This would become a limitation in unrestricted adoption on long-haul. Hence BCN, BOXN & Flat wagons and loco should be converted to twin pipe within next 5 years.

LOCOTROL:

Manual system of ensuring coordination between front and middle locomotives in a long haul train has limitations and possibilities of errors. Also, the two Traction units are not able to work fully in a synchronized mode, ie, powering, releasing and applying brakes together without use of a second crew in a middle loco set. Use of distributed power system involving use of LOCOTROL type systems should be adopted universally on all locomotives. However since existing LOCOTROL is not a portable device, railways may have to draw a strategy to confine long haul locomotive in a closed circuit or alternatively portability of LOCOTROL may have to be examined. In case portable LOCOTROL is not practicable, LOCOTROL may be made a part of locomotives.

Infrastructure : As long term strategy, Railways should expeditiously construct longer loop at a distance about 50 Kms to avoid any detention of coaching trains enroute and to maintain order of precedence. Longer loops may be constructed on priority on a section where doubling/tripling/quadrupling of section on way. These longer loops can be constructed at convenient stations where such constructions do not require construction of bridges/culvert etc. These longer loops subsequently can be converted as a part of running line etc.

Training of Staff : To develop a confidence among the staff, it is necessary that they should be properly trained. On the basis of experience gained, a separate module on running of long haul trains should be developed by ZTS and to be taught to Loco pilots, Guards and station Staff as a part of their refresher and initial training.



GOVERNMENT OF INDIA
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(For Official Use)

Pamphlet on Long Haul Train Operation



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