भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

150 गौरवपूर्ण वर्ष

रेल भवन, नई दिल्ली-110001, दिनांक
Rail Bhavan, New Delhi-110 001, dated

No.M(N)/2005/Train Examination **May 6, 2005**

The General Managers(OL)
All Indian Railways.

The Director General
RDSO, Lucknow.

Sub.: **Freight Train Examination Practices/Procedure.**

As you are aware, Board (CRB) had constituted a Multi-Disciplinary Task Force consisting of DTT(G) and DME(Frt.) to review extant practices and procedure of freight train examination, which inter alia included cross country comparison of the time taken for train examination; frequency and items of train examination; universal Vs ownership concept for freight stock maintenance; availability of infrastructure for maintenance/examination etc. The above Multi-Disciplinary Task Force submitted its joint report on 28.1.05, which is enclosed herewith for your information. Thereafter, the conclusions and recommendations made by the Task Force in their joint report were further reviewed by another multi-disciplinary committee consisting of EDME(Frt.) and EDTT(M) as well as at the level of the Board (MM & MT). Based on the above mentioned deliberations, Board (MM, MT & CRB) have approved the conclusions and recommendations as included in the joint report with certain modifications. The same are enclosed as Annexure 'A' for your information and necessary action. Wherever the detailed instructions are required to be issued from the Board/RDSO in reference to approved conclusions/recommendations, the same shall follow.

6/5/05

(A.K. Puthia)
Exe. Dir. Mech. Engg. (Frt.)

Encl.: As above (Annexure 'A' – 7 pages & Joint Report – 20 pages)

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TASK FORCE CONCLUSIONS & RECOMMENDATIONS ON FREIGHT TRAIN EXAMINATION AS APPROVED BY BOARD

Annexure 'A'

A. CONCLUSIONS

Items	Task Force Conclusion	Board(MM & MT)'s Comments
(1)	Wagon being the bread earning rolling stock of IR, it has to be maintained, developed and utilised optimally.	Agreed.
(2)	Terminal detentions at loading and unloading points as well as the overall detention for freight train examination consisting of detention from arrival to placement, for train examination and from release and departure must be reduced.	Agreed.
(3)	The current status of wagon technology indicates that body and bogie design are 2-3 decades behind the prevailing designs over developed railway systems. Similar is the status of infrastructural facilities for wagon maintenance. The conventional Casnub bogie as well as casnub high speed bogies are highly maintenance intensive compared to state of the art track friendly bogies being uitilised by the developed railway systems, for example, Sheffel bogie/axle motion truck/swing motion bogies over South Africa, Australia and North America. These bogies give maintenance free operation for more than one million kilometers (no maintenance required during this period except wheel turning) and are being utilised for high speed operation upto 150 kmph and with high axle loads more than 25 tonnes. Therefore as a long-term objective, IR has to catch up with the state of the art wagon technology, if it wishes to achieve comparable operating performance parameters. In addition, the wagon body especially of open air brake wagons is another weak area on account of excessive corrosion and on account of frequent tippling and mechanized loading leading to very high abrasive wear and damages to the stanchions etc. Therefore, accelerated switchover to stainless steel/aluminum body wagons (once proven out successful in the field trials) should be pursued. In addition,	Agreed. Improvement in design of various wagon components is a continuous process and RDSO should strive to achieve more and more improvements so that reliability and safety of stock is enhanced as well as maintenance requirement is reduced. Introduction of Steel/Aluminium body wagons has already been included in IRMP by Ministry of Railways. Mid-life rehabilitation of wagons (specially open wagons) by wagon builders can be considered to off set the effect of increased payload (PCC) beyond carrying capacity.

	to improve the health of our existing open air brake fleet, **mid life rehabilitation by wagon builders** should provide an immediate relief.	
(4)	Keeping in view that all the IR corridors carry mixed traffic (both passenger and freight), safety standards of the freight train should in no way be inferior than those of passenger carrying trains. This aspect must be kept in mind by both operating and mechanical departments, which are the primary stake holders of freight train operations over IR.	Agreed
(5)	Adequate investment in upgrading the wagon technology, infrastructural facilities for wagon maintenance and at loading and unloading terminals must be ensured if we wish to improve the wagon availability, reliability and their productivity. Ensuring freight transportation in a safe and reliable manner is the common goal of operating and mechanical department and, therefore, both have to address their mutual concerns.	Agreed. Indian Railway has already increased investment for infrastructure facilities for maintenance and loading/unloading terminals. It needs to be sustained in the coming years also.
(6)	The periodic scheduled maintenance (POH and ROH), intensive examination, rolling in and post tippling and loading checks have evolved and fine tuned over a period of time as indicated in the analysis. The items/activities involved have been analysed reviewed and their rationality has been reassessed	For post tippling and post loading revalidation, comprehensive data may be obtained from various zonal railways and then final decision shall be taken.
(7)	Close circuit concept devolves around a mother depot, defined circuit and integrity. To leverage its high productivity, sanctity of this concept must be understood by one and all. Loss of CC rake should be viewed seriously. CC base can only come up in the vicinity of workshop/ROH depot. CC rake to be formed out and replacement to be provided from off ROH/POH (less than 3 month old) stock only.	(i) The present system to continue. (ii) CC rakes need to be monitored through FOIS. (iii) Support of POH Shop/ROH depot to be made available for CC Bases.

(B) RECOMMENDATIONS

Item No.	Task Force Recommendations	As approved by the Board(MM&MT)
(i)	**Upgrading infrastructural facilities** : To bring about marked reduction in overall terminal detention for train examination/wagon maintenance infrastructural facilities at wagon examination/maintenance depots should be upgraded in a time bound manner as indicated below : a) All category 'B' 'C' & 'D' CC bases should be upgraded to category 'A' within a period of one year. All category 'E' & 'F' CC bases (10 in number) should be upgraded to category 'A' /'B' within the next two years. b) All category 'B' & 'C' intensive points should be upgraded to category 'A' within one year. In addition, 10 category 'D' intensive points {DD(CR), BTI(NR), TKD(NR), GZB(NR), LKO(NR), NGC(NF). Ratlam (WR), Jhansi (NCR), Itarsi (WCR), Kota & Satna (WCR)}should be upgraded to category 'A within one year. Rest of the category 'D', 'E' & 'F' intensive points should be upgraded to category 'A' within the next 3 years. c) All category 'B', 'D' & 'E' sicklines may be upgraded to category 'A' within the next 3 years d) All category 'B' & 'C' ROH depots may be upgraded to category 'A' depots within the next 2 years and all category 'D' ROH depots may be upgraded to 'B'/'A' category within the next 3 years. To achieve the above objective, a minimum of Rs.100 crores must be earmarked per annum for implementing the above-mentioned recommendations. Priority of projects to be undertaken should be decided by EDs' Committee consisting of EDME(Frt.), EDTT and ED(Finance).	It was felt that scale of facilities required in sick lines may come down if facilities are upgraded in train examination points(including CC bases). This should be kept in view while planning facilities in sick lines. Following maintenance facilities for which proposals are already available in Railway Board may be considered for upgradation by Supplementary sanction in the current year. **ROH Depot** - CP, **CC Bases** – RDM, BZA, **End-to-end Examination points (5 nos.)** – NH, CP, GZB, PRDP, KRBA, **Sick lines** – BZA, BNDM, BAD, BMY(4 nos.) Zonal Railways may be asked to submit proposals for upgradation of following maintenance bases which may eb considered for sanction during 2006-07 and 2007-08: **CC Bases(6 nos.)** : BNDM(EX) BSP, HPT, UMB, DPS, BJE **End-to-end Examination**: (11 nos.) TMBY, MLDT, KJGY, BTI, JUC, BPA, OBRA, BMY, SGT, KTT, STA **Sick Line(14 nos.)**: BSL, TMBY MRJ, MLDT, NH, CP, NJP, JTJ, BPA, PEH, OBRA, GHZ, VSKP(CSL), RTM **ROH Depot**: **(4 nos.)** AQ, BRCY, PEH, DPS For remaining points to be covered after 2007-08, the matter can be reviewed by ME(Frt) and TT Dte. in April/2006.
(ii)	**Premium CC rakes** : The concept of premium close circuit rakes may be	Premium CC rakes turned out by Category 'A' bases should have

	introduced. These premium close circuit rakes shall be turned out by Category 'A' CC bases with BPC validity of 6000 kms/20 days (whichever is earlier). All conventional CC rakes from non-category 'A' depots may be turned out with BPC validity of 4500 kms/15 days (whichever is earlier).	validity of BPC for 6000 kms/30 days (whichever is earlier). All conventional CC rakes from non-category 'A' depots may be turned out with BPC validity of 4500 kms./20 days(whichever is earlier) Km earning should be monitored by FOIS in addition to entries in the BPC and it should be ensured that the rake is returned to the base depot for next examination in empty condition before expiry of BPC on Km or time basis. However, if any non Category 'A' CC base is permitting Kms./days higher than 4500/20, the same higher kms/days will be continued and base will be upgraded by providing necessary infrastructure on priority.
(iii)	**Clone/Twin CC Bases** : Another pilot project of nominating Clone/Twin CC Bases under the same zonal railway may also be tried out in SER with Bandamunda and Bokaro. These bases shall jointly maintain each others CC rakes. However, before this trial begins, both the bases should be upgraded to 'A' category, FOIS network should be available, networking to share each others CC rake data bases, adequate availability of material and ensuring that each CC rake shall visit its mother depot at least in alternate PME i.e. the stepmother depot shall not carry out two consecutive PMEs of any foreign CC rake.	The Pilot Project for Clone/twin CC bases should be launched on WR between Karchia and Hapa points immediately to be followed by provision of recommended inputs on priority on out of turn basis.
(iv)	**Premium End to End rakes :** The concept of premium end to end rakes of air brake covered stock may also be introduced. These premium end to end rakes shall have the BPC validity of end to end/ 8 days (whichever is later). These rakes shall be turned out by all category 'A' & 'B' intensive points	The premium end-to-end rakes should have validity for 10 days. Zonal railways should identify examination points to turnout Premium end-to-end rakes. Such nominated points should be upgraded to 'A' category on priority. End-to-end(Premium) rakes will be certified after examination in empty condition with minimum 95% Brake Power. However, end-to-end examination on the existing pattern will also continue, wherever required.

(v)	To assist the field in implementing the above mentioned concepts, the following must be ensured : **(a) Delegation of procurement powers** : Procurement and supply procedure for wagon items must be streamlined besides empowering the field officers managing the wagon maintenance with equivalent. Procurement powers as available to Stores officers to enable them to go in for emergency procurement of any wagon item (stock/non-stock) upto 3 month requirement at any point of time. If it requires relaxing the codal provision, the same may be done. **(b) Overcome staff shortage** : To ensure that there is no staff shortage, a drive must be initiated to fill up the vacancies in freight maintenance wing (including of unskilled staff) as they fall in safety category. Since, the freight traffic would continue to rise in tandem with the GDP growth, the concept of yearly review of the staff strength by the CRSE must be conducted in the same manner as is being done for running staff. Based on the target given to the zonal railway for freight traffic, the sanctioned strength should be revised accordingly and action should be initiated for filling up of the vacancies. **(c) FOIS network** must be extended to cover all CC bases, intensive points, ROH depots and wagon workshops besides providing a terminal at TXR control in divisional and zonal headquarters. The existing FOIS software permits triggering an alarm as the CC rake is nearing the end of its BPC validity (in terms of kilometers/days), this provision should be utilised by all zonal railways.	Accepted. Simultaneously, the issue of quality of spares should also be addressed. Accepted. Accepted.
(vi)	**Upgrading the technology :** Accelerated induction of stainless steel and aluminum body wagons. Accelerated induction of BMBS (bogie mounted brake system). Quick introduction of track friendly bogies. Wayside detection systems must be introduced for abnormal riding, wheel flat and bearing abnormality/hot box.	Accepted.

(vii)	**Rolling stock track and trace (automatic vehicle identification and tracking) system :** As a part of ongoing drive to further improve the quality of customer service and achieve excellence in asset management, Rolling Stock Track & Trace System should be introduced, which would automatically identify vehicle and its exact location on a real time basis. The proposed Rolling Stock Track and Trace system would automatically identify all rolling stock using Radio-frequency tags and track-side readers (or other suitable tracking technology) and track their movements across the country. The location information captured by the readers would be automatically fed into a central Rolling Stock Movement database. The master data base would also feed data to FOIS, and other such existing and planned applications requiring accurate vehicle location data. This shall assist in tracking each and every wagon on a real time basis. i) As a first step, a pilot project may be undertaken to prove out the selected technology over SER, ECoR & SECR.	Accepted.
(viii)	**Reducing pre & post examination detentions :** Yard layout to be modified to facilitate faster placement as well as shunting operations for marshalling. Examination facilities to be enhanced to overcome the problem of bunching.	Accepted. Zonal railways to be advised to assess the changes on case to case basis and take necessary action under intimation to Railway Board.
(ix)	**Illumination facility for undergear examination:** While sufficient illumination facilities have been emphasized in various categories of examination points, it is essential that adequate illumination should be there for examination of undergear as well as for movement of material etc. Further, track center distance to be increased by surrendering few lines, pathways are affected by OHE masts.	Accepted. However, possibility of increasing track centre distance by surrendering few lines will be examined and provided if feasible after taking into account the operating requirements
(x)	**Time limit for examinations** : Time limits given in wagon manual for examination to be achieved by all 'A' category depots. For every lower category – 20% extra for each stage.	The time limit given is maximum but the rakes can be released in lesser time if work is completed earlier on account of better condition of the rake. In case time limits are not being adhered to on account of some

		constraints, they should be addressed by zonal railways on priority to avoid breach of maximum time limit.
(xi)	**Guard and Driver check** : This check has been introduced to take care of an eventuality that the rake, which is to be offered for examination after completion of the loading and unloading cycle is required to travel for another 200-300 kms. before hitting the first TXR point in the direction of movement. However, this check cannot replace the TXR examination and in no way should be leveraged to run freight train on GDR check for stretches beyond 300 kms. Zonal railways must ensure that the freight trains must move between 2 points on the shortest route. However, in case where the rakes are moving on GDR check for abnormally long stretches, i.e., 400 kms or more, TXR point may be planned. In case of any inter Divisional/ inter zonal dispute regarding location of the proposed examination point, when the stretch of unexamined movement is more than 400 kms, Headquarters/Board should intervene and decide. On a lapsed/invalid BPC, the GDR check is valid only for a particular guard and driver beat. The next crew should carry out its own GDR check till the train hits the next examination point.	The comments may be modified as under: **Guard and Driver check** : This check has been introduced to take care of an eventuality that the rake, which is to be offered for examination after completion of the loading and unloading cycle is required to travel for another 250-300 kms. before hitting the first TXR point in the direction of movement and examination due should not be avoided by taking trains through bypass routes or through yards which are not nominated for examination. To facilitate GDR check, checklist and simple format may be issued. The cases where rakes are moving on GDR checks for abnormally long stretches say 300 kms or more should be collected from zonal railways and analysed by Board (Mech. and TT Dtes.) for further corrective action.
(xii)	**Invalid BPCs** : Trains moving on invalid BPC is an area of serious concern. Such cases are comparable to SPAD and should be taken up as seriously a each case of SPAD is taken up.	Such cases will be scrutinized at Board's level and taken up with concerned zonal railways by TT & Mech. Dtes.

(C) Observations of Hon'ble MR in Note. Dt. 18/3/05

Observations of Hon'ble MR	*Comments*
(i) Train examination practice should aim at achieving the twin objectives of operational flexibility and enhanced availability of rakes without compromising safety of trains.	The proposed changes in the pattern of freight train examinations have been suggested to provide operational flexibility and enhanced availability without compromising safety of trains.
(ii) The opportunity cost of these kinds of excessive detentions runs into hundreds of crores of rupees.	After implementation of pattern of examination, number of examinations will significantly reduce on account of premium CC rakes and premium end-to-end rakes. This will result in substantial monetary savings.
(iii) The time spent on placement and release is two times more than the time spent on train examination per se. this needs to be brought down by at 50%.	Time spent on placement depends on availability of examination lines, & examination gangs. By nominating more lines for examination with required infrastructure and by providing adequate gangs, the time spent on placement is proposed to be reduced substantially. Time spent between release of the rake and dispatch of the rake depends on extent of detachments required from the rake and availability of locomotives with crew. By providing proper facilities on examination lines, the extent of detachments for placement to sick lines will be reduced. Simultaneously, zonal railways are being advised to fill the vacancies of crew so that the rakes after examination do not detain on this account.
(iv) The validity of BPC in end to end rakes is decided not by quality of examination but by the distance traveled between two successive loading. This appears not only to be incongruous but also leads to examination of rakes after traveling very short distances in number of cases. This needs to be examined and suitably addressed.	The problem of frequent examination of end-to-end rakes after short trips is proposed to be taken care of by introducing premium end-to-end rakes. Under this Scheme, for premium end-to-end rakes of covered air brake stock, BPC will be issued for 10 days during which more than one loading can be arranged for short destinations (15 days proposed by EDTT(M) but not agreed by EDME(Fr.) as most of the covered air brake rakes will have more than one loading within 10 days itself).
(v) We should try to reap full benefits of massive investments made in procuring superior technology rolling stock. We	The main investments in rolling stock has been to introduce air brake stock as a replacement to 4W tank wagons and vacuum brake stock. The

REVIEW OF TASK FORCE CONCLUSIONS & RECOMMENDATIONS ON FREIGHT TRAIN EXAMINATION BY ED's COMMITTEE

A. CONCLUSIONS

Items	Task Force Conclusion	EDs Comments
(1)	Wagon being the bread earning rolling stock of IR, it has to be maintained, developed and utilised optimally.	Agreed.
(2)	Terminal detentions at loading and unloading points as well as the overall detention for freight train examination consisting of detention from arrival to placement, for train examination and from release and departure must be reduced.	Agreed.
(3)	The current status of wagon technology indicates that body and bogie design are 2-3 decades behind the prevailing designs over developed railway systems. Similar is the status of infrastructural facilities for wagon maintenance. The conventional Casnub bogie as well as casnub high speed bogies are highly maintenance intensive compared to state of the art track friendly bogies being uitilised by the developed railway systems, for example, Sheffel bogie/axle motion truck/swing motion bogies over South Africa, Australia and North America. These bogies give maintenance free operation for more than one million kilometers (no maintenance required during this period except wheel turning) and are being utilised for high speed operation upto 150 kmph and with high axle loads more than 25 tonnes. Therefore as a long-term objective, IR has to catch up with the state of the art wagon technology, if it wishes to achieve comparable operating performance parameters. In addition, the wagon body especially of open air brake wagons is another weak area on account of excessive corrosion	Agreed. Improvement in design of various wagon components is a continuous process and RDSO should strive to achieve more and more improvements so that reliability and safety of stock is enhanced as well as maintenance requirement is reduced. Introduction of Steel/Aluminium body wagons has already been included in IRMP by Ministry of Railways. Mid-life rehabilitation of wagons (specially open wagons) by wagon builders can be considered to off set the effect of increased payload (PCC) beyond carrying capacity.

should also bench mark our train examination practices with the best in the world and make suitable investments in upgrading infrastructural facilities.	productivity of air brake stock is being adequately harnessed by utilizing them for 6000 kms between 2 intensive examinations under CC concept. Moreover, detachments of such air brake stock are also much less as compared to 4W Tanks on UIC stock Regarding train examination practices in the other advanced freight loading systems like that of China, Australia, Canada and US, the same depends on type of stock being used, quality of manpower and infrastructure for maintenance in workshops and their depots. There has not been much exposure to the officers of Indian Railways in this area. It is recommended that a group of Sr. officers may visit the above advanced railway systems to have first hand information and to apply similar practices on our system.

(VINAY MITTAL)
EDTT(M)

(A.K. PUTHIA)
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