भारत सरकार Government of India

रेल मंत्रालय Ministry of Railways

रेलवे बोर्ड Railway Board

No.2018/M(N)/951/36 New Delhi, dated 03.01.2019

Principal Chief Mechanical Engineers
All Zonal Railways

Sub: Inspection of Wagon Axles in Workshops & ROH depots

Ref: (i) Board's letter No. 2012/M(Safety)/7/6 SIMS Pt.II dated 22.11.2016 (Copy enclosed)
(ii) Board's letter No. 2014/M(N)/951/36 dated 22.05.2017 (copy enclosed)
(iii) Board's letter No. 2014/M(N)/951/36 dated 23.10.2017 (copy enclosed)
(iv) Board's letter No. 2014/M(N)/951/36 dated 10.01.2018 (copy enclosed)
(v) Board's letter No. 2014/M(N)/951/36 dated 28.05.2018 (copy enclosed)

Cold breakage of axles have continued to remain a concern over the past, even though a number of such cases have continued to remain at one or two cases every year. From time to time, various instructions have been issued in this area vide letters under reference (i) to (v) which were aimed at :

(a) Improving the detection of potentially defective axles through ultrasonic testing conducted during ROH & POH (ref.-(i)).
(b) Process improvement in ultrasonic testing by way of improving the worker skill, availability of proper tool, system of cross check, record keeping of scanned images and proper handling practices of wheels and axles in the Workshops. (ref. (ii) & (iii)).
(c) Ensuring that wheelsets and axles already available in workshops as spare are promptly put back to use after due inspection and are not left to lie unused in shop, exposed to the elements of weather. (ref.(iv) & (v)).

Various actions were required to be taken on Zonal Railways and an Action Taken Report was required to be sent to Board. The Action Taken Report is still awaited from all Railways. It may be noted that, NR, SR & SWR have so far sent one report which does not cover majority of issues raised vide above and are to be seen as lacking in implementation of the above referred directions of Board.

In view of above, it is advised that a comprehensive Report to cover the directives of Board on the subject contained in letters under reference (i) to (v), be evaluated and a comprehensive Report on Action Taken be sent to Board latest by end of January 2019.

(Ajay Nandan)
Exec. Dir. Mech. Engg. (Frt.)
Railway Board

Copy to:

1. PED/Wagon, RDSO
2. ED/M&C/RDSO

} For kind information and necessary action

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

No.2012/M(Safety)/7/6 SIMS Pt.II

New Delhi, dated 22.11.2016

The Chief Mechanical Engineers
All Indian Railways

Sub:- Consequential Accidents on account of cold axle breakage in wagons

Ref:- RDSO's letters No.
(i) M&C/MIT/I&T/5 dated 17.9.2015 (Metallurgical Report No. 53/15)
(ii) M&C/MIT/I&T/5 dated 31.10.2016 (Metallurgical Report No. 77/16)
(iii) M&C/MIT/I&T/5 dated 31.10.2016 (Metallurgical Report No. 90/16)
(iv) M&C/MIT/I&T/5 dated 04.07.2016 (Metallurgical Report No. 40/16)
(v) M&C/MIT/I&T/5 dated 10.10.2016 (Metallurgical Report No. 71/16)
(vi) M&C/MIT/I&T/5 dated 23/25.05.2015 (Metallurgical Report No. 23/15)
(vii) M&C/MIT/I&T/5 dated 17.04.2015 (Metallurgical Report No. 128/14)

Many cases of consequential accidents on account of cold axle breakage in wagons have been reported by the Zonal Railways. After investigation of the cases M&C Directorate of RDSO has recommended to take following action to prevent cold breakage of axles in future:

(i) The surface of axles especially near the fillet area shall also be visually examined to see any corrosion and if corrosion pits are present the axle shall be discarded or frequency of USFD testing can be increased to monitor the axle.

(ii) Since there is less possibility of corrosion during movement of the axle, it is recommended that those axles which were lying idle in ROH depots/sickliness and are being used should invariably as specified above be examined for surface corrosion.

(iii) USFD testing and visual checking of axle is to be ensured in all cases, be it in workshops or in open line depots. This should also include loose wheelsets supplied from workshop to open line depots.

Railways may ensure compliance of above without fail.

(Ajay Nandan)
Exec. Dir. Mech. Engg. (Frt)
Railway Board

Copy to: **Director General(M&C)/RDSO** for information.

SN96

SN99

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

FR103

रेल भवन, नई दिल्ली- 110001, तिथि
Rail Bhavan, New Delhi-110001, dated: 22.05.2017

No.2014/M(N)/951/36

The Chief Mechanical Engineers
All Indian Railways

Sub: **Technical audit of Ultrasonic Testing Procedure of rolling stock axles**

Ref: 1) MRS's D.O. letter of even no. dated 04.10.16 – SN98
2) RDSO's Letter No.D.R./NDT/1/8 dt. 5.10.2016 – SN22, 25
3) RDSO's letter No.D.R./NDT/Quality Audit UST dt. 24.04.2017 – SN98

...

Based on the past cases of on line failures of axles some of which led to consequential accidents, Board (MRS) had directed for undertaking a technical audit of the Ultrasonic Testing Procedure of rolling stock axles of all zonal railways and PUs. The detailed guidelines for the technical audit were issued by the RDSO vide letter u/r (2) and the results/findings of the audit were compiled and circulated by RDSO (u/r 3).

The major shortcomings identified on zonal railways were in the following 5 categories:

a) A scan pattern images not being saved for future record
b) Over aged equipment
c) 2% cross check of testing not being done by the controlling supervisor/officer
d) Overdue refresher course and/or training of operating staff
e) Lack of tools of periodic calliberation and sensitivity tests

It is hereby advised that the system of Ultrasonic Testing of rolling stock axles that be reaudited following same guidelines as has been issued vide RDSO letter u/r (2). The results of this repeat audit be sent to RDSO latest by 15/6/2017 for further analysis and remedial measures if felt needed.

The matter may please be treated as MOST URGENT considering its safety implication.

(AJAY NANDAN)
Exec. Director Mech. Engg. (Fr)
Railway Board

CC:
ED/W (as ED/M&C), RDSO – for information and necessary action regarding follow up on this repeat audit.

23/5/2017

23/05

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

रेल भवन, नई दिल्ली- 110001, तिथि
Rail Bhavan, New Delhi-110001, dated 23.10.2017

No. 2014/M(N)/951/36

Principal Chief Mechanical Engineers
All Indian Railways

Sub: Report of RDSO on analysis of axle rejection data
Ref: RDSO letter No.M&C/MI-4/Axle/2015 dated 26.09.2017

The report of RDSO on analysis of rejection of axles during UST and inspection for mechanical defects for the calendar year 2015 is enclosed. RDSO's recommendations vide Para 6 of report along with the detailed analysis bring out the following issues:

a) Data of rejection of axles on mechanical defects account has been sent to RDSO only by five railways over the period. Since majority of the rejections are taking place of mechanical defect account railways must ensure that detailed data on rejection of axles on mechanical defect account, is sent to RDSO.
b) ECR and SECR have not been sending data of rejection of axles on UST as well as mechanical defect accounts. This need to be ensured by the two railways.
c) Railway must ensure that all the data in required format for calendar year 2016 is sent to RDSO latest by 30.10.2017.
d) Of the total rejections at 3286 during the year, 2714 (82.6%) axles are rejections on account of mechanical defect in workshops. This is indicative of same issues with the handling practices of wheels and axles in the workshop concerned. Railways need to review the practices on their own.
e) Out of the 2714 cases of rejection on mechanical defect account, 1768 (64.8%) have taken place on ER and 669 (24.7%) on NER. ED(Carriage), RDSO may conduct an audit of wheel handling practices at the two coaching workshop LLH & GKP. Based on the audit, suitable advisory/instruction as required may be issued, which should cover the issues detected during such audit.
f) ED (Wagon) may arrange for similar quality audit of wheel handling practices at JMP/ER and All/NWR for handling wheels and axles of wagons.
g) Amongst the UST accounts failures, defects in journal and journal fillet are indicative of improper bearing withdrawal as well as improper storage of axles during handling in workshops as well as open line depots. This needs to be further analysed and M&C Dte may issue detailed instructions for proper handling and storage in both open line and workshops

Action taken in this regard may be advised for information of Board (MRS).

(AJAY NANDAN)
Exec. Director Mech. Engg. (Fr)
Railway Board

Copy to:
ED/Wagon/Carriage & M&C, RDSO, Lucknow – for information and necessary action w.r.t. item (e), (f) and (g) above.

भारत सरकार Government of India

रेल मंत्रालय Ministry of Railways

रेलवे बोर्ड Railway Board

No.2014/M(N)/951/36 New Delhi, dated 10.01.2018

Principal Chief Mechanical Engineers
All Zonal Railways

Sub: Revising of requirement of new axles

Ref: Board (MRS)'s inspection note No. 2017/M(W)/509/1 dated 02.01.2018 on his visit to Coach MLR Workshop, Wagon Repair Workshop and Supervisors Training Centre, Jhansi on 22.12.2017

Para 30 of the above mentioned inspection note mentions as under :

"All wagon workshops may revisit requirement of new axles in the light of ground availability of new and serviceable axles and also condemned / under condemnation wagons."

Accordingly, it is requested to arrange for taking necessary action in the matter.

(Vivek Mohan)
Dir. Mech. Engg. (Frt.)
Railway Board

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

No.2014/M(N)/951/36

रेल भवन, नई दिल्ली- 110001, तिथि
Rail Bhawan, New Delhi dated: 28.05.2018

The P.C.M.Es
All Indian Railways

Sub: **Requirement of new axle and loose wheels on Zonal Railways**

Ref: 1) Board (MRS)'s inspection note No.2017/M(W)/509/1 dated 02.01.2018 on his visit to Coach MLR Workshop, Wagon Repair Workshop and Supervisors Training Centre, Jhansi 22.12.2017
2) Board's letter of even no. dated 02.02.2018

. . .

Vide Board's letter u/r (i) Zonal Railways were asked to review the requirement of new axles keeping into account the released wheel sets available from wagons, which have been condemned or are under condemnation.

Vide the inspection note, Board (MRS), had also noted that old serviceable axles and wheel sets have been stored in the shops in the haphazard manner, which may cause damage to such axles.

Based on the replies received from the railways, it is seen that on no. of railways the requirement of axles against sanction of AAC is still considerably high. The review also does not indicate that the use of serviceable wheel sets released from condemned wagons, which should have resulted in commensurate reduction in requirement of axles as well as loose wheels has not been accounted for.

1. PCMEs are requested to set up system on their Zonal Railways particularly, in workshops to ensure that all the released wheel sets are promptly put to use and only those wheel sets, which have unserviceable wheel discs should be stored as serviceable axle. Storage of such released axles should be ensured with due precautions so as to ensure that they remain usable.
2. Normally workshops should not resort to use of new axles/wheel discs as long as there are serviceable wheel sets/axles from condemned wagons are available.
3. Each workshop must have one nominated officer (not less than JAG), who will be taking decisions for condemnation of axles and wheel sets under his personal approval so that the condemnation of axles and wheel sets can be kept track off.
4. AAC of axles and wheel discs must be reviewed every six months keeping into account the availability of serviceable axles/wheel sets available from condemned wagons.

A report on action taken in this regard may please be sent latest by 30-6-18.

(AJAY NANDAN)
Exec. Director Mech. Engg. (Fr)
Railway Board