

EAST COAST RAILWAY

**Office of the
Pr. Chief safety officer,
Bhubaneswar.**

No:- ECoR/SFY/Alert advice-47/183

Date: 24.03.2025

To

**The Divisional Railway Manager
KUR, SBP & WAT**

ALERT MESSAGE-47

Sub:- HABD (Hot Axle Box Detector); Early detection of Hot Axle; action taken thereto on detection.

Ref:-ECOR JPO No M3/03(C)/Pt.III/2666 of date 12.11.2024 issued by CRSE(Frt), CRSE(Chg), CELE & CFTM.

There are around 105 Hot axle cases detected over ECOR in the current financial year out of which a good number of cases are detected by HABD installed at various locations. Even after alarmed by HABD; trains are running long distances till detachment. On 11.03.2025 Hot Axle in coach no. SE 246146; LWSCN (5th from loco) of Train no.: 12246 (YPR-HWH) Exp was detached at KUR at 11:33 Hrs detailed as under:

- HABD installed between PUNDI-DUSI section alarmed at 05:21:28 hrs. for R/3 axle box at 121.0° C and L/3 at 20.8° C; **Temperature difference 100.2° C.**
- SS/ULM reported brake binding in the said coach during through passing.
- At KBM the TMR found no brake binding and brake indicator green but smoke coming from axle and spring location; was put out by fire extinguisher.
- During Rolling in examination at PSA at 07:10Hrs; TXR/PSA found no abnormality. Train controlled at PSA for further check. HABD installed on DN line at PSA gave no alarm which was later found defective 20.03.25 for its failure to detect Hot axle of train No RCLL detected by HABD between PUNDI-DUSI.
- During rolling in examination at KUR at 09:57 Hrs; Smoke noticed from R3 axle. Axle box temperature found L3 at 38° C and R3 at 425°C. **Temperature difference 387° C** and the same was detached at KUR.

In the above context it is essential to reiterate the extract of the JPO under reference on action to be taken on trains alarmed with HABD (Hot Axle Box Detector):

1. In order to detect the Hot Axle Boxes in the running trains at preliminary stage, Hot Box Detectors (HABD) have been commissioned at various locations in the division along with Central monitoring System for all HABDs at C&W control office.

D. Sub

2. These HABDs are installed with the intention of detecting warm boxes well in advance and subsequent action may be initiated by stopping the trains at the next immediate station for TM & LP check and if required detailed C&W staff examination, thereafter. **The duties of concerned departments are as under:-**

A. C&W CONTROL:-

1. As soon as the train passes through the Hot Box detector, the details of the last train passed through will be displayed with maximum temperature recorded on LH & RH axle boxes of the train in the web form provided in the C&W control.
2. This system highlights the row of rolling stock with RED indication if the axle box temperature of individual axle box recorded more than 65 °C and/or difference between axle boxes of same axles more than 20 °C or any other temperature set by division for similar parameter and generates alarm sound.
3. As soon as the alarm is received from the hot box detector of a particular section, C&W controller has to identify the train which passed at the particular time with Section Controller and position of the Rolling Stock from the train engine based on the number of locos, types of stock and axle box number (generated by the system)
4. **The C&W controller should give written advice to Section Controller to stop the train at the next station.** The written advice should contain the following details- Train No. & Description, HABD Location, UP/DN line, Time of train passed HABD, Position of coach/wagon from TE, Station where train is to be stopped, Line to be received (Main Line/Loop line), Speed Restriction if any.
5. If the temperature of the axle box is high and if, symptoms of grease oozing or bearing distress is noticed by the TM & LP, feedback should be obtained and recorded in the register. In such a case, C&W staff has to be moved from nearest location.
6. If the temperature is high but there is no grease oozing or bearing elements are intact, C&W controller, for arranging to issue caution order, shall give written advice to section controller to impose speed restriction up to **60 KMPH** in case of coaching train and up to **45 KMPH** in case of Empty/loaded freight train up to next C&W point; duly advising Section Controller to inform & alert all en-route stations/LCs to observe. **The speed restrictions shall be eased only after thorough examination by C&W staff and certificate by TXR.**
7. C&W controller has to inform the next TXR point for examination of the train in case of alarm for checking by C&W staff.
8. The C&W staff should ensure the axle box temperature with **handheld temperature gun (NO HABD)** and:
 - a. **In case of ICF coaches if the temperature of the axle box is more than 80°C and/or the difference in temperature of any two axle boxes is above 20°C, the affected coach is to be detached immediately. If the temperature difference is up to 10°C; No action, 10°C to 15°C; C&W point to be intimated & examination up to destination, 16°C to 20°C; C&W Staff to accompany up to**

24/3

destination and more than 20°C; coach to be detached after ensuring bearing condition.

- b. In case of LHB coaches if temp of axle box is; 80°C or more or the difference of temp between 02 bearings is more than 20°C: Coach should be detached after ensuring bearing condition, 65°C or above or less than 80°C: information to be given to next halt station for checking the temp of the box, C&W supervisor also informed to proceed with temp gun and no action if axle box temp below 65°C.

B. SECTION CONTROLLER:

1. Section Controller of respective board, on receipt of written advice of C&W controller shall acknowledge the same with time and shall record information received in control chart.
2. Section Controller shall advise the SM of the next station/examination point to stop the train as per the written advice of C&W Controller.
3. The train shall be received on main line. If main line reception is not feasible, the train shall be received on first unavoidable turnout with concurrence of C&W Controller only.
4. Section controller on receipt of the written advice of C&W controller, shall advise the SM to issue caution order to the train and advise SM's of en-route stations apprising them the situation with specific advice to inform LC's under their control.
5. Further, based on the decision conveyed by the C&W controller, action like detachment of coach/wagon, movement of the trains etc can be done.
6. It shall be ensured that any train with suspected symptoms of hot axle must be stopped and examined at the next station and decision of C&W has to be followed.

C. TRAIN MANAGER & LOCO PILOT (TM & LP) :

1. When information is received through TLC/PRC or C&W/Controller or SM for examination of the train and the position of the rolling stock from train engine, which is involved in hot axle box alarm, the TM & LP should proceed to the particular stock and examine the cause for alarm (Brake binding or hot axle).
2. The TM & LP should measure the temperature by handheld infra red thermometers (available at nominated stations) or else feel the axle box temperature by hand (palm side)/by spitting and to see if the bearing is hot, whether bearing elements are intact and whether grease oozing is noticed. Information should be relayed to C&W Controller/SCR for appropriate action/instruction.
3. If the hot axle box is ruled out, the alarm could be due to brake binding in such case LP & TMR should take the following action:
 - a. Ensure the correct position of Empty/Load Device of the affected wagon (position should be in Empty direction for Empty wagon and in load direction for loaded wagon).
 - b. Ensure the hand brake is released fully.

24/3

- c. Ensure that the brake blocks are free and if they are jammed, the DV of the rolling stock has to be isolated. The air pressure in the system should be released and the brake rigging is free from application.
4. While working with speed restriction up to next TXR point, TM & LP shall look for any hot axle signal given by station staff/gate-man.

D. STATION MASTER:

1. SM shall record advice of section controller for HABD in control order book.
2. SM shall stop the train on advice from section controller and issue a written memo to TM & LP to check the wagon/coach with infra red thermometers if available, for which alarm was generated.
3. If the temperature of the axle box is high and if, symptoms of grease oozing or bearing distress is noticed by the TM & LP; in such a case, C&W staff has to be intimated for appropriate action.
4. In case of less severity, C&W controller shall give written advice to section controller to impose speed restriction up to next C&W point, duly advising Section Controller to inform all en-route stations/LC gates to observe. On instructions of section controller, SM shall issue caution order to TM & LP of train for situation, duly advising LC gates under his control & SM in advance to observe the train.
5. As soon as the train is stopped at the next station, the TM & LP should be informed by SM through memo regarding the alarm and the position of the rolling stock from the train engine.
6. In case of severity, Station Master will arrange for detaching the vehicle/coach as per the written advice by Guard/LP or message by C&W control/ Section Controller.

This is to be circulated down the line to inculcate safety awareness among the field staff & to be discussed in safety seminars/safety meetings & during counselling by officers/supervisors. At training centres and workshops the same may be discussed among the trainees/field staff. In case of any discrepancy; the instructions in Codes and manuals/JPO shall prevail.


(Mohnish Bramh)

Dy.CSO(Mech.)

For PCSO/ECOR

Copy to-

1. Secy. to GM for kind information of GM.
2. Secy. to AGM for kind information of AGM.
3. PCE, PCME, PCOM, PCEE, PCCM, PCSTE, PCSC & CAO (Con) for information.
4. Sr.DSO/ KUR, SBP & WAT for information & necessary action.
5. Principal MDTG/VSKP & MDZTI/BBS for information & necessary action.