

**DEPARTMENT OF TRANSPORTATION****Federal Railroad Administration****Safety Advisory 2023–01; Evaluation of Policies and Procedures Related to the Use and Maintenance of Hot Bearing Wayside Detectors (Second Supplement)**

**AGENCY:** Federal Railroad Administration (FRA), Department of Transportation (DOT).

**ACTION:** Notice of Safety Advisory; Notice No. 3.

**SUMMARY:** FRA is issuing this Second Supplement to Safety Advisory 2023–01 to reiterate and expand upon the recommendations in its previously published Safety Advisories related to hot bearing wayside detectors (HBDs). This Safety Advisory reiterates FRA's previous recommendations in Safety Advisory 2023–01 and its June 14, 2023 Supplement, and expands on the recommendations to incorporate the findings of FRA's ongoing evaluations by emphasizing: the importance of trend analysis and the opportunity to integrate wayside detector data types to evaluate railcar health; the need to establish and follow appropriate processes in analyzing and responding to HBD data; the need for railroads to ensure that adequate staff are assigned to monitor and respond to wayside detector data; and the need for railroads to maximize the use of HBD data, including sharing wayside detector data between railroads, as a train travels from one railroad's tracks to another railroad's track.

**FOR FURTHER INFORMATION CONTACT:** For further information concerning this Safety Advisory, please contact Karl Alexy, Associate Administrator for Railroad Safety and Chief Safety Officer, Office of Railroad Safety, FRA, 1200 New Jersey Avenue SE, Washington, DC 20590, (202) 493–6282. *Disclaimer:* This Safety Advisory is considered guidance pursuant to DOT Order 2100.6A (June 7, 2021). Except when referencing laws, regulations, policies, or orders, the information in this Safety Advisory does not have the force and effect of law and is not meant to bind the public in any way. This document revises and expands upon the previously issued guidance in Safety Advisory 2023–01 published on March 3, 2023 and the first supplement to that Safety Advisory published on June 14, 2023.

**SUPPLEMENTARY INFORMATION:****Background**

On February 21, 2023, in response to a series of rail accidents, including the

February 3, 2023, Norfolk Southern Railway Company (NS) train derailment in East Palestine, Ohio, U.S. DOT Secretary Pete Buttigieg, while calling on the freight rail industry and Congress to take action to improve rail safety, reiterated the Department's commitment to enhancing rail safety through specific targeted actions.<sup>1</sup> In addition to various regulatory and other activities FRA already had underway at the time of Secretary Buttigieg's announcement, one of the actions announced included a focused inspection program of routes over which high-hazard flammable trains (HHFTs)<sup>2</sup> and other trains transporting large volumes of hazardous materials travel (Route Assessment). Subsequently, consistent with the commitments in the Secretary's call to action and in response to continued derailments and the death of an NS worker, FRA launched a supplemental safety assessment of NS and issued multiple safety advisories and safety bulletins,<sup>3</sup> calling attention to the risks FRA identified in recent accidents.

On March 3, 2023, FRA published Safety Advisory 2023–01 (88 FR 13494) and on June 14, 2023, FRA published a Supplement to that Safety Advisory (88 FR 38933). Both Safety Advisory 2023–01 and the June 14, 2023, Supplement to that Safety Advisory recommended that railroads take certain actions relative to HBDs to enhance the mechanical reliability of their rolling stock and improve the overall safety of railroad operations. Since publication of those advisories, FRA has continued to evaluate railroads use of HBDs and investigate accidents relating to journal bearings on railcars.

Additionally, FRA proposed a task statement to the Rail Safety Advisory Committee (RSAC) to lead the development of best practices in the use of wayside detectors that may include recommendations to update existing regulations and guidance, and/or develop new regulations and guidance

<sup>1</sup> See <https://www.transportation.gov/briefing-room/us-department-transportation-fact-sheet-steps-forward-freight-rail-industry-safety>.

<sup>2</sup> An HHFT is "a single train transporting 20 or more loaded tank cars of a Class 3 flammable liquid in a continuous block or a single train carrying 35 or more loaded tank cars of a Class 3 flammable liquid throughout the train consist." 49 CFR 171.8.

<sup>3</sup> <https://railroads.dot.gov/elibrary/safety-advisory-2023-01-evaluation-policies-and-procedures-related-use-and-maintenance-hot>; <https://railroads.dot.gov/elibrary/safety-advisory-2023-02-train-make-up-and-operational-safety-concerns>; <https://railroads.dot.gov/elibrary/safety-advisory-2023-03-accident-mitigation-and-train-length>; <https://railroads.dot.gov/elibrary/safety-bulletin-2023-01-switching-operation-accident>; <https://railroads.dot.gov/sites/fra.dot.gov/files/2023-03/Safety%20Bulletin%202023-02%2028031623%29.pdf>.

regarding wayside detector equipment and operations.

**HHFT Route Assessment**

As noted above, in March 2023, FRA initiated the Route Assessment, a nationwide comprehensive assessment of the rail routes over which HHFTs and other trains carrying large volumes of hazardous materials are transported. The Route Assessment included all FRA technical safety disciplines (*i.e.*, hazardous materials, track, signal and train control, mechanical, operating practices, and grade crossing). The Route Assessment was designed to evaluate the overall condition of the rail infrastructure (including, but not limited to, track, rolling stock, signal systems, and other equipment that affects or monitors the safety of rail operations) and railroads' compliance with both FRA safety regulations and the regulations of the Pipeline and Hazardous Materials Safety Administration.

FRA published the High-Hazard Flammable Train Route Assessment & Legacy Tank Car Focused Inspection Program Summary Report on January 2024 (Summary Report).<sup>4</sup> This Summary Report identified areas where improvements are needed in railroads' practices, processes, and procedures relating to the use of wayside detector technology to help ensure effective use of that technology. For example, FRA found inconsistencies in railroads' processes and procedures for handling wayside detector data and recommended railroads develop and share with industry best practices related to the inspection and maintenance policies and procedures relating to wayside detectors. Similarly, FRA found that the lack of detector data-sharing among railroads was preventing individual railroads from identifying trends in equipment condition as equipment is interchanged between railroads. The Summary Report also highlighted the need for railroads to ensure sufficient resources and infrastructure are in place to effectively process and communicate detector data and alerts to all those involved in the movement of trains.

**Supplemental Safety Assessment of NS**

On March 15, 2023, FRA initiated a supplemental safety assessment of NS (NS Assessment), with a specific focus on safety culture and training, as well as a deep dive into compliance with selected regulations and the status of

<sup>4</sup> Available at: [https://railroads.dot.gov/sites/fra.dot.gov/files/2024-01/HRA%20Final%20Report\\_01.22.24.pdf](https://railroads.dot.gov/sites/fra.dot.gov/files/2024-01/HRA%20Final%20Report_01.22.24.pdf).

NS's responses to FRA recommendations resulting from FRA's 2022 System Audit of the railroad.<sup>5</sup> In August 2023, FRA published its findings resulting from the NS Assessment<sup>6</sup> that included several areas of concern relating to NS's use of HBDs and included recommendations to improve the resiliency of NS's processes and procedures for monitoring and responding to bearing health information from the railroad's system of HBDs.<sup>7</sup>

#### *RSAC Wayside Detector Working Group*

On April 21, 2023, RSAC accepted FRA's proposed task statement related to wayside detectors (RSAC Task No. 2023-01).<sup>8</sup> The RSAC working group charged with carrying out this task includes representatives from railroads, suppliers, and labor organizations. The working group is analyzing current railroad processes and procedures, as well as current industry standards and historical safety data. This ongoing RSAC task is intended to lead to the development of best practices in the use of wayside detectors that may include recommendations to update existing regulations and guidance, and/or develop new regulations and guidance regarding wayside detector equipment and operations. FRA anticipates that the RSAC task will be completed by the end of 2024.

#### *Analysis of Recent Accidents and Safety Trends*

Since publication of the first supplement to Safety Advisory 2023-01 on June 14, 2023, five (5) FRA-reportable accidents suspected to be caused by or attributable to a burnt journal bearing(s) have occurred.<sup>9</sup> Of these accidents, at least three might have been prevented by improved decision-making processes or analyses using the HBD data. Further, despite railroads reporting an increase in the use of HBDs in recent years, the rate of bearing related accidents (including reportable and non-reportable accidents)

has remained relatively constant over the years and shows no sign of improvement.

#### **Recommended Railroad Actions**

In light of the above discussion and in response to FRA's ongoing investigation of the derailment in East Palestine, Ohio, FRA is supplementing the recommendations included in Safety Advisory 2023-01 and its June 14, 2023, Supplement to expand upon recommendations nos. 3 and 5 as well as adding two additional recommendations. For ease of reference, FRA's existing recommendations nos. 1 through 5 are reproduced below, with changes to recommendations no. 3 and no. 5 and including the new recommendations nos. 6 and 7. Accordingly, FRA recommends that railroads take the following actions:

1. Review existing HBD system inspection and maintenance policies and procedures for compliance with existing industry standards and manufacturer recommendations for HBDs.
2. Review existing procedures to train and qualify personnel responsible for installing, inspecting, and maintaining HBDs to ensure they have the appropriate knowledge and skills. Railroads should also develop and implement appropriate training on the inspection and maintenance requirements for HBDs and provide that training at appropriate intervals to ensure the required knowledge and skill of inspection and maintenance personnel. Further, railroads should evaluate their training content and training frequency to ensure any employee who may be called upon to evaluate a suspect bearing has the necessary training, experience, and qualifications. FRA also encourages railroads to ensure these individuals are available at all hours of operations across a railroad's network.

3. Review current HBD detector trending logic and thresholds considering recent derailments, and all other relevant available data (including data from any close calls or near misses), to determine the adequacy of the railroad's current trend analysis and thresholds levels. Thresholds should be established for single measurement as well as multiple measurements of individual bearings to enable temperature trend analysis. Railroads should maximize the opportunity for journal bearing trending and seek opportunities to integrate wayside detector data types to evaluate railcar health and action critical issues, including risks associated with burnt journal bearings.

4. Review current procedures governing actions responding to HBD alerts to ensure required actions are commensurate with the risk of the operation involved. With regard to trains transporting any quantity of hazardous materials, FRA recommends railroads adopt the procedures outlined in AAR's OT-55 for key trains as an initial measure.

5. Rigorously evaluate the resiliency and accuracy of the overall process used to monitor and act upon information from wayside detectors, with specific focus on steps and tasks that, if not performed or performed incorrectly, could mislead decision makers. The process of monitoring, reporting, inspecting, analyzing, and acting on information from detectors includes tasks that, if incorrectly executed, could introduce risk. Railroads should also evaluate each step and task performed by railroad personnel to pinpoint any HBD reporting failures to report potential problems and implement appropriate safeguards to minimize their impact when monitoring, analyzing, and responding to detector information. For example, relating to the May 10, 2023, NS derailment in New Castle, PA referenced in the June 14, 2023, Supplement to Safety Advisory 2023-01, although the investigation is still ongoing, FRA is probing the communication and timing of the alarm and alerts to both the locomotive, wayside detector desk and the dispatch center, and if there was a failure of the railroad's process that contributed to the accident.

6. Ensure that desks for monitoring wayside detector reports, advisories, and alerts are staffed during all hours of railroad operation, including back-up personnel to ensure coverage when personnel take breaks or step away from the desk to perform other duties. All personnel that monitor the desks should be trained and knowledgeable in railcar health and wayside detector capabilities, capable of reviewing alerts and trends and corresponding with train crews regarding potential unsafe conditions.

7. Maximize the use of HBD data, as well as data from other types of wayside detectors, sharing data between railroads as a train travels from one railroad's tracks to another railroad's track, s including advising a receiving railroad when a railcar has a trending journal bearing or other potentially unsafe conditions.

#### **Conclusion**

As noted in Safety Advisory 2023-01 and its June 14, 2023 Supplement, the issues identified in this second

<sup>5</sup> FRA Audit No. 2022-NS Special Audit -01-1 available at <https://railroads.dot.gov/elibary/fra-audit-report-norfolk-southern-railway-company>.

<sup>6</sup> <https://railroads.dot.gov/about-fra/communications/newsroom/press-releases/supplemental-safety-assessment-norfolk-southern>.

<sup>7</sup> [https://railroads.dot.gov/sites/fra.dot.gov/files/2023-08/2023%20NS%20Safety%20Culture%20Assessment\\_08.09.23.pdf](https://railroads.dot.gov/sites/fra.dot.gov/files/2023-08/2023%20NS%20Safety%20Culture%20Assessment_08.09.23.pdf).

<sup>8</sup> <https://rsac.fra.dot.gov/tasks>.

<sup>9</sup> The five derailments since publication of Safety Advisory 2023-01 Supplement on June 14, 2023, include the May 21, 2023, UP derailment in Mecca, CA; the July 6, 2023, NS derailment in Elliston, VA; the November 22, 2023, CSX derailment in Livingston, KY; the February 10, 2024, CSX derailment in Aurora, NC; and the February 17, 2024, CSX derailment in Pee Dee, SC.

supplement to Safety Advisory 2023–01 are indicators of a railroad's safety culture. Implementing procedures to ensure safety and adequately train personnel so that those procedures become second nature, is vital. Equally important is the commitment, throughout a railroad's organization, to safety and empowerment of personnel to live up to that commitment. Further, railroads must work together to maximize the use of wayside detector data and information, sharing this information openly to maximize safety.

FRA encourages railroads to take actions consistent with Safety Advisory 2023–01, as originally published, as supplemented, and as further amended in this second supplemental notice, as well as any other complementary actions, to ensure the safety of rail transportation. FRA may modify this notice, issue additional safety advisories, or take other actions necessary to ensure the highest level of safety on the Nation's railroads, including pursuing other corrective measures under its authority.

Issued in Washington, DC.

**Amitabha Bose,**  
*Administrator.*

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## DEPARTMENT OF TRANSPORTATION

### National Highway Traffic Safety Administration

[Docket No. NHTSA–2024–0036]

#### Denial of Motor Vehicle Defect Petition, DP24–002

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

**ACTION:** Denial of a petition for a defect investigation.

**SUMMARY:** This notice sets forth the reasons for the denial of a defect petition, DP24–002, submitted by Ms. Elizabeth Margulies (the Petitioner) to NHTSA (the Agency) by a letter dated February 15, 2024. The petition requests that the Agency initiate a safety defect investigation into loss of motive power incidents attributed to vehicles manufactured by Kia America, Inc. (Kia) equipped with 3.3 L Lambda-II engines. After conducting a technical review of the petition and other information, NHTSA's Office of Defects Investigation (ODI) has concluded that the issues raised by the petition do not warrant a new defect investigation. Peer vehicles

equipped with the 3.3 L Lambda-II engine are already being considered in an open investigation into allegations of loss of motive power for Model Year (MY) 2016–2017 Kia Sorento vehicles equipped with the same 3.3 L Lambda-II engine. Accordingly, the Agency has denied the petition as moot.

**FOR FURTHER INFORMATION CONTACT:** David Engel, Vehicle Defect Division C, Office of Defects Investigation, NHTSA, 1200 New Jersey Avenue SE, Washington, DC, 20590. Telephone: 202–366–0385. Email: *david.engel@dot.gov*.

#### SUPPLEMENTARY INFORMATION:

##### Introduction

Interested persons may petition NHTSA requesting that the Agency initiate an investigation to determine whether a motor vehicle or an item of replacement equipment does not comply with an applicable motor vehicle safety standard or contains a defect that relates to motor vehicle safety. 49 U.S.C. 30162(a)(2); 49 CFR 552.1. Upon receipt of a properly filed petition, the Agency conducts a technical review of the petition, material submitted with the petition and any additional information. 49 U.S.C. 30162(a)(2); 49 CFR 552.6. The technical review may consist solely of a review of information already in the possession of the Agency or it may include the collection of information from a motor vehicle manufacturer and/or other sources. After conducting the technical review and considering appropriate factors, which may include, but are not limited to, the nature of the complaint, allocation of Agency resources, Agency priorities, the likelihood of uncovering sufficient evidence to establish the existence of a defect and the likelihood of success in any necessary enforcement litigation, the Agency will grant or deny the petition. *See* 49 U.S.C. 30162(a)(2); 49 CFR 552.8.

##### Background Information

The Office of Defects Investigation (ODI) received a petition dated February 15, 2024, requesting a defect investigation into an alleged defect of the 3.3L Lambda-II engine equipped in Kia vehicles.<sup>1</sup> The Petitioner owns a MY

<sup>1</sup> The letter also included a request for rulemaking with the stated goal of ensuring Kia vehicles equipped with the engine at issue adhere to safety standards that “effectively mitigate and rectify the identified defect.” NHTSA interprets this request as a part of the Petitioner's request for a defect investigation. The Vehicle Safety Act provides for a petition to request that NHTSA “prescribe a motor vehicle safety standard.” 49 U.S.C. 30162(a)(1); *see* 49 CFR 552.3(a). Federal Motor Vehicle Safety

2016 Kia Sedona with a 3.3 L Lambda-II engine and addresses concerns with that vehicle, as well as others with that same engine.

#### Summary of Petition

The petition cites allegations of a sudden loss of motive power, often resulting in an engine seizure. The stall is preceded by a knocking sound, sudden loss of all oil, and no warning lights.

#### Office of Defects Investigation Analysis

On November 13, 2023, ODI opened PE23–019 to address allegations of loss of motive power, on the 3.3L V6 Lambda-II engine for MY 2016–2017 Kia Sorento. Even though the failure mechanism could be considered different between DP24–001 and PE23–019, the hazard at which it progresses is the same. PE23–019 includes the MY 2016 Kia Sedona, the Petitioner's vehicle, as a peer vehicle. The investigation addresses as peer vehicles all MY 2014–2015 and 2018–2020 Kia Sorento, 2014–2020 Kia Cadenza, and 2015–2021 Kia Sedona vehicles with 3.3 L engines manufactured for sale or lease in the United States.

The investigation seeks to identify any hazards associated with this failure mode and will consider if the allegations cited by the Petitioner present a risk to vehicle safety. This investigation includes quantifying the severity and frequency of the alleged loss of motive power in the peer vehicles.

This investigation is ongoing and addresses the potential safety-related defect raised by the Petitioner. In view of the open investigation, PE23–019, ODI is denying the petition as moot. The Agency will evaluate through PE23–019 if a safety-related defect exists.

*Authority:* 49 U.S.C. 30162(d) and 49 CFR part 522; delegation of authority at 49 CFR 1.95(a).<sup>2</sup>

**Eileen Sullivan,**

*Associate Administrator for Enforcement.*

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Standards (FMVSS) are requirements that apply to new vehicles at the time of manufacture. *See* 49 U.S.C. 30111, 30115. The Petitioner is instead requesting NHTSA take action with respect to an alleged defect in vehicles already manufactured and certified as compliant with the FMVSS. A defect petition is the appropriate mechanism to address the substance of Petitioner's request.

<sup>2</sup> The authority to determine whether to approve or deny defect petitions under 49 U.S.C. 30162(d) and 49 CFR part 552 has been further delegated to the Associate Administrator for Enforcement.