U.S. Department of Transportation
National Highway Traffic Safety Administration

OFFICE OF DEFECTS INVESTIGATION

ODI RESUME

Investigation: DP22004
Prompted By: Defect Petition
Date Opened: 01/17/2023 **Date Closed:** 06/20/2024
Investigator: Nate Seymour **Reviewer:** Joshua Neff
Approver: Tanya Topka
Subject: Semi-Trailer Rear Impact Guard

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Generic Manufacturer
Products: Van-Type Semi-Trailers (all years)
Population: 2,450,000 (Estimated)

Problem Description: The rear impact guard may allow light vehicles to underride a semi-trailer in the event of a crash.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	EWR D&I	Other	Total	EWR Field Reports
All Incidents:	1	0	0	22	23	0
Crashes/Fires:	0	0	0	22	22	0
Injury Incidents:	0	0	0	1	1	0
Number of Injuries:	0	0	0	1	1	0
Fatality Incidents:	0	0	0	22	22	0
Number of Fatalities:	0	0	0	29	29	0

Description of Other:
All incidents derived from materials submitted by Petitioners pertaining to fatal incidents involving the subject product when struck in the rear. There were 22 identified incidents; the incident in the ODI column refers to the subject petition.

ACTION/SUMMARY INFORMATION

Action: Petition is denied; close this Defect Petition.

Summary:

The Office of Defects Investigation (ODI) received a petition dated August 18, 2022, requesting an investigation of collisions of passenger vehicles and vulnerable road users (pedestrians, bicyclists, or motorcyclists) with van-type (also known as box) semi-trailers that result in significant injuries or death due to a lack of effective rear impact guards (RIGs). No specific trailer manufacturer or equipment supplier was identified. The petition itself can be viewed at https://www.nhtsa.gov/recalls?nhtsaId=11481272. The petition acknowledges that the issues presented may be addressed by the actions the agency is taking pursuant to the Bipartisan Infrastructure Law (BIL).

The petitioners cite crashes exemplifying their concerns, including those in NHTSA's Fatality Analysis Reporting System (FARS), stating that there are "hundreds of underride deaths and serious injuries annually from collisions with semitrailers." Petitioners observe that from 1994 to 2015, FARS reports 1,803 rear underride deaths, and further assert that FARS is "known to underreport these deaths." This data, according to petitioners, "indicate[s] that semitrailers without effective [RIGs] contain a defect that presents an unreasonable risk."

Petitioners also submitted to NHTSA, between January 30 and May 15, 2023, various materials—the vast majority of which were over 200 news articles pertaining to fatal incidents involving a heavy truck. NHTSA reviewed these materials. Of the news articles, over a third regarded the same crash event, or regarded a non-crash event. Through extensive additional research, ODI determined that twenty-two of the events involved van-type (or "box") semitrailers. Of those twenty-two events, ODI was able to identify the trailer manufacturer in nine; however, none of the model years could be determined. There were no crash reports of vulnerable road user fatalities or injuries included in the materials received from the petitioners.

Approximately one month before submission of the petition, NHTSA updated the Federal Motor Vehicle Safety Standards (FMVSS) for RIGs (FMVSS 223 and 224). See 87 FR 42339. FMVSS provide minimum safety standards for vehicles or items of motor vehicle equipment sold in the United States. Such rulemaking efforts involve extensive research and analysis, including requirements to consider economic impacts. NHTSA relied on a collection of crash databases and published research to update these FMVSS. Among other sources, NHTSA used the University of Michigan Transportation Research Institute (UMTRI) study of Trucks Involved in Fatal Accidents (TIFA) in updating the FMVSS for RIGs—not the Fatality Analysis Reporting System (FARS) data that petitioners claim underreport deaths from collisions with semitrailers. See 87 FR 42354. These updated standards replace the original standards released in 1996, and adopt requirements similar to the Canada Motor Vehicle Safety Standard (CMVSS) 223 for RIG protection. They provide for upgraded protection in crashes where the passenger motor vehicle hits the center of the rear of the trailer or semitrailer, and crashes in which 50 percent of the width of the passenger motor vehicle overlaps the rear of the trailer or semitrailer. The updated standards went into effect on January 11, 2023, and have a compliance date of no later than July 15, 2024. The updated standards also satisfy BIL requirements. 87 FR 42342.

Further, pursuant to BIL, in July 2022, NHTSA published a notice soliciting nominations for an advisory committee on Underride Protection, to provide advice and recommendations to the Secretary of Transportation on safety regulations to reduce underride crashes and fatalities relating to underride crashes. See 87 FR 40346. In April 2023, NHTSA announced 16 members of that committee, which include petitioner Marianne Karth as well as another representative of underride crash victims. The committee is further comprised of representatives of truck safety organizations; motor vehicle crash investigators; law enforcement; labor organizations; motor vehicle engineers; the insurance industry; motor carriers, including independent owner-operators; and truck and trailer manufacturers.

In addition to the advisory committee, NHTSA previously announced several additional actions related to truck trailer underride safety, including improving data collection of underride crashes by recommending inclusion of underride data in state crash data systems and by providing educational materials to state and local police departments on identifying and recording underride crashes. NHTSA is also conducting research on rear impact guard designs that better protect occupants of passenger vehicles in even more rear underride crash scenarios. NHTSA, with the Federal Motor Carrier Safety Administration (FMCSA), published a pamphlet in August 2022—which was distributed to law enforcement through various channels—that explains how to identify and record such crashes (this pamphlet is available at https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-08/Underride-Crash-Pamphlet_071522_v6a-tag.pdf).

After consideration of the petition, including the reports provided by the petitioners, NHTSA believes the issues raised are best addressed through its recent rulemaking and the ongoing actions under BIL. Accordingly, NHTSA has decided not to open a defect investigation, and the petition is denied. The denial of this petition does not foreclose the agency from taking further action if warranted or making a future finding that a safety-related defect exists based upon additional information the agency may receive.