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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2007-28927; Notice 2]

Sidump'r Trailer Company, Inc., Grant of Petition for
Decision of Inconsequential Noncompliance

AGENCY: National Highway Traffic Safety Administration, DOT

ACTION: Grant of petition

SUMMARY: Sidump'r Trailer Company, Inc. (Sidump'r) has determined that the rear impact guards on certain trailers that it manufactured between January 10, 2006 and April 13, 2007 do not comply with paragraph S5.1 of 49 CFR 571.224, Federal Motor Vehicle Safety Standard (FMVSS) No. 224, *Rear Impact Protection*. Sidump'r has filed an appropriate report pursuant to 49 CFR Part 573, *Defect and Noncompliance Responsibility and Reports*, dated April 20, 2007.

Pursuant to 49 U.S.C. 30118 (d) and 30120 (h) and the rule implementing those provisions at 49 CFR Part 556, Sidump'r has petitioned for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential to motor vehicle safety. Notice of receipt of a petition was published, with a 30-day public comment period, on August 16, 2007, in the Federal Register (72 FR 46127). The National Highway Traffic Safety

Administration (NHTSA) received no comments. To view the petition and all supporting documents log onto the Federal Docket Management System (FDMS) website at: <http://www.regulations.gov/>. Then follow the online search instructions to locate docket number "NHTSA-2007-28927."

For further information on this decision, contact Mr. Luis Figueroa, Office of Vehicle Safety Compliance, NHTSA, telephone (202) 366-5298, facsimile (202) 366-1002.

TRAILERS INVOLVED: Affected are approximately 416 model 223, 325 and 425 side dump bulk material hauling trailers manufactured by Sidump'r between January 10, 2006 and April 13, 2007.

SUMMARY OF SIDUMP'R'S ANALYSIS AND ARGUMENTS: Sidump'r first became aware of the noncompliance of these trailers when Sidump'r received a customer inquiry on or about February 27, 2007 regarding the rear impact guards installed on the subject trailers. As a result of this inquiry, Sidump'r stated that it commenced a thorough engineering evaluation of the rear end of the subject trailers to determine whether they meet the requirements of FMVSS No. 224. Following this engineering evaluation and after consultation with its counsel, Sidump'r determined that the trailers do not comply with FMVSS No. 224.

Specifically, Sidump'r has determined that the location of those guards does not meet the requirements of paragraph S5.1.3

of FMVSS No. 224 because there is a "push block" located at the rear of the trailer chassis extending 23.62 inches (600 mm) to the rear of the rear impact guard. Sidump'r stated that it considered the "push blocks" to be the "rear extremities" of the subject trailers. Therefore, it concluded that the rearmost surface of the horizontal members of the rear impact guards are located 11.62 inches (295 mm) too far forward of the "rear extremity" of the trailers to conform with the requirements of paragraph S5.1.3.

Sidump'r also examined the possibility of the "push block" itself serving as the rear impact guard. It determined that the "push block" itself does not constitute a compliant rear impact guard as originally installed because it exceeds the maximum ground clearance of 22 inches (560 mm) allowed by paragraph S5.1.2 of FMVSS No. 224 by 1.5 inches (38 mm).

Sidump'r stated that it has corrected the problem that caused the noncompliance in the trailers they produced after April 20, 2007 by modifying the design of the trailers to incorporate an additional horizontal member mounted to the underside of the "push block" assembly.

Sidump'r also stated that it believes this noncompliance is inconsequential to motor vehicle safety and that no further corrective action is warranted due to the geometric characteristics of the trailers and the nature of their field

usage. Specifically, Sidump'r makes the arguments that the overall level of safety of the subject trailers is equivalent to a compliant trailer because their "push block" is equipped with a guard-like structure that is comparable to a compliant rear impact guard based on dimensional considerations, and on a simulation of the guard performance¹ when subjected to the loads required under FMVSS No. 223. Sidump'r additionally supported its position that the overall level of safety of the noncompliant trailers is equivalent to comparable trailers by comparing them to road construction controlled horizontal discharge trailers and by citing several previous decisions where NHTSA granted temporary exemptions from compliance with FMVSS No. 224 as the result of petitions filed under 49 CFR Part 555 *Temporary Exemption From Motor Vehicle Safety and Bumper Standards* for noncompliances that it considers similar in consequence to those covered in this petition.

DISCUSSION:

Requirement Background:

Paragraph S5.1.3 *Guard Rear Surface* of FMVSS No. 224 requires:

At any height 560 mm or more above the ground, the rearmost surface of the horizontal member of the guard shall be located as close as practical to a transverse vertical plane tangent to the rear extremity of the vehicle, but no more than 305 mm forward of that plane. Notwithstanding this requirement, the horizontal member may extend rearward

¹ Fred P. Smith, P.E., CSP, *Under Ride Report* (Alpine Engineering and Design, Inc., 2007). Supplemental petition data as submitted on May 14, 2008 to docket number NHTSA-2007-28927.

of the plane, and guards with rounded corners may curve forward within 255 mm of the longitudinal vertical planes that are tangent to side extremities of the vehicle.

Paragraph S5.1.2 *Guard Height* of FMVSS No. 224 requires:

The vertical distance between the bottom edge of the horizontal member of the guard and the ground shall not exceed 560 mm at any point across the full width of the member. Notwithstanding this requirement, guards with rounded corners may curve upward within 255 mm of the longitudinal vertical planes that are tangent to the side extremities of the vehicle.

Sidump'r states that NHTSA has granted temporary exemptions based on: infrequent highway use (69 FR 30989, 68 FR 7406 and 64 FR 49049), as well as small production quantities of vehicles (66 FR 22069, 63 FR 16857, 66 FR 20028 and 68 FR 7406). Those temporary exemptions were granted based on petitions submitted by vehicle manufacturers under 49 CFR Part 555, *Temporary Exemption from Motor Vehicle Safety and Bumper Standards*. The statutory provision (49 U.S.C. 30113) that permits manufacturers to file petitions for a determination of exemption allows NHTSA to temporarily exempt manufacturers from specific FMVSS or bumper standard requirements. This provision applies to vehicles that have not yet been passed from the manufacturer to an owner, purchaser, or dealer, which is not the case for the subject trailers. Exemptions are available under this provision to permit vehicles to be built without complying with the standards based on certain specific criteria, including the

petitioner's economic hardship. Under each of the criteria, the number of vehicles produced is a specific consideration. See, e.g., 49 CFR 555.6(a)(2)(v). The primary basis for NHTSA granting the temporary exemptions cited above was because the petitioners had met the burden of persuasion that compliance would have caused substantial economic hardship. Economic hardship is not a consideration in the evaluation process for inconsequentiality petitions. See 49 CFR Part 556. Accordingly, NHTSA does not find those decisions under Part 555 relevant here.

NHTSA agrees with Sidump'r's assessment that the rear impact guards on the subject trailers do not conform to the requirements of S5.1.3 of 49 CFR 571.224 because they are mounted too far forward of the rear extremities of the trailers.

Also, NHTSA agrees with Sidump'r's assessment that if a guard-like structure under the push block complies with the dimensional and performance requirements of FMVSS No. 223 and FMVSS No. 224 that the guard-like structure can serve as a rear impact guard². Sidump'r used a finite element model analysis³ to make a determination that the guard like structure would meet the performance requirements. Finite element modeling is a mature science and appropriately accurate for modeling the

² NHTSA's Chief Counsel interpretation letter to Jason Backs (CPS Trailers, May 28, 1998)

rudimentary force deflection characteristics of the guard-like structure under the push block. Based on that analysis, which Sidump'r submitted to the docket, the guard-like structure appears to meet the loads and energy absorption requirement under FMVSS No. 223.

In addition, based on the drawings provided by Sidump'r, NHTSA agrees that the guard-like structure meets all of FMVSS No. 224 configuration requirements except for guard height. While the maximum height requirement was exceeded by an inch and a half, NHTSA does not consider the difference significant in this particular instance. Using NCAP (2003 - 2009) test data OVSC selected compact and subcompact vehicles to determine the part of the frame structure that would most likely engage the bumper of a trailer and the height of that structure in the car.

We determined that the area most likely to be engaged by the rear impact guard would be the area of the unibody where the front shock absorbers (struts) are attached. We also looked at the height of the engine block in those cars. The shock absorber height and the top of the engine block height are data points measured as part of the NCAP frontal impact evaluation of vehicles. The average shock absorber height was 838 mm (33 in) with a minimum of 566 mm (22 in) and a maximum of 972 mm (38

³ Finite element analysis can be used as a basis for establishing certification to performance requirements of a standard.

in). The average engine block height was 836 mm (33 in) with a minimum of 748 mm (29 in) and a maximum of 935 mm (37 in). In addition, we asked laboratory personnel to measure the depth of the engine block cover of several vehicles to be crash tested. The average depth was between 2 and 4 in. This depth was used to assess shearing of the engine block cover during a crash and possible impact. Based on this NCAP data we believe the car's frontal structure will effectively engage the rear impact guard during a crash incident and that Sidump'r's guard placement of 1½ in (38 mm) over the required FMVSS No. 224 guard height is inconsequential to vehicle safety based on the particular facts in this case.

NHTSA DECISION: In consideration of the foregoing, NHTSA has decided that Sidump'r has met its burden of persuasion that the dimensional noncompliance described in Sidump'r's Noncompliance Information Report is inconsequential to motor vehicle safety. Accordingly, Sidump'r's petition is granted, and the Sidump'r is exempted from the obligation of providing notification of, and a remedy for, the noncompliances under 49 U.S.C. 30118 and 30120.

Authority: 49 U.S.C. 30118, 30120; delegations of authority at 49 CFR 1.50 and 501.8.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file

petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections 30118 and 3120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, this decision only applies to the trailers that Sidump'r no longer controlled at the time that it determined that a noncompliance existed in the subject vehicles.

ISSUED ON: April 11, 2013

Claude H. Harris, Director
Office of Vehicle Safety Compliance

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