



**DEPARTMENT OF TRANSPORTATION**

**National Highway Traffic Safety Administration**

**[Docket No. NHTSA-2015-0040; Notice 2]**

**BMW of North America, LLC, Denial of Petition for  
Decision of Inconsequential Noncompliance**

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

**ACTION:** Denial of Petition

**SUMMARY:** BMW of North America, LLC, (BMW) a subsidiary of BMW AG in Munich, Germany, has determined that certain model year (MY) 2013 BMW 5 Series sedan passenger cars do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 108, *Lamps, Reflective Devices and Associated Equipment*. BMW filed a noncompliance report dated March 26, 2015. BMW also petitioned NHTSA on April 17, 2015, for a decision that the subject noncompliance is inconsequential as it relates to motor vehicle safety.

**ADDRESSES:** For further information on this decision contact Mike Cole, Office of Vehicle Safety Compliance, the National Highway Traffic Safety Administration (NHTSA), telephone (202) 366-5319, facsimile (202) 366-3081.

**SUPPLEMENTARY INFORMATION:**

**I. Overview:** BMW of North America, LLC, (BMW) a subsidiary of BMW AG in Munich, Germany, has determined that certain model year (MY) 2013 BMW 5 Series sedan passenger cars do not fully comply with paragraph S8.1.11 of Federal Motor Vehicle Safety Standard (FMVSS) No. 108, *Lamps, Reflective Devices and Associated Equipment*. BMW filed a noncompliance report dated March 26, 2015, pursuant to 49 CFR Part 573, *Defect and Noncompliance Responsibility and Reports*.

Pursuant to 49 U.S.C. 30118(d) and 30120(h) (see implementing rule at 49 CFR Part 556), BMW also petitioned NHTSA on April 17, 2015, for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that the subject noncompliance is inconsequential as it relates to motor vehicle safety.

Notice of receipt of the petition was published with a 30-day public comment period, on June 11, 2015, in the **Federal Register** (80 FR 33332). No comments were received. To view the petition and all supporting documents log onto the Federal Docket Management System (FDMS) website at:

<https://www.regulations.gov/>. Then follow the online search instructions to locate docket number "NHTSA-2015-0040."

**II. Vehicles Involved:** Affected are approximately 13,899 MY 2013 BMW 5 Series sedan passenger cars manufactured between January 30, 2013 and June 28, 2013.

**III. Noncompliance:** BMW explains the noncompliance as a failure of some of the rear reflex reflectors on the affected vehicles to fully conform to the minimum photometric performance required by paragraph S8.1.11 of FMVSS No. 108.

**IV. Rule Text:** Paragraph S8.1.11 of FMVSS No. 108 requires in pertinent part:

S8.1.11 *Photometry.* Each reflex reflector must be designed to conform to the photometry requirements of Table XVI-a when tested according to the procedure of S14.2.3 for the reflex reflector color as specified by this section.

**V. Summary of BMW's Analyses:** BMW used Ricco's Law to determine a minimum required reflection coefficient in its analysis. BMW chose Ricco's Law because they believe it best corresponds to the human physiological condition in which a light source of a given size and intensity is minimally capable (i.e., illumination threshold) of producing visual perception.

As such, BMW created a graph whereby the y-axis represented the reflection coefficient in units consistent with FMVSS No. 108 and the x-axis represented the distance between two vehicles in order to simulate the condition of an approaching vehicle and a parked or stopped vehicle.

BMW provided the graph to illustrate that even with parameters representing a "worst-case scenario," sufficient visibility of the rear reflex reflectors of the affected vehicles exists.

BMW stated that it has not received any contacts from vehicle owners or other road users regarding issues related to the subject noncompliance and is also not aware of any accidents or injuries that have occurred as a result of this issue.

BMW has additionally informed NHTSA that it has corrected the noncompliance so that subsequent vehicle production will conform to paragraph 8.1.11 of FMVSS No. 108.

In summation, BMW believes that the described noncompliance of the subject vehicles is inconsequential to motor vehicle safety, and that its petition, to exempt BMW from providing recall notification of noncompliance as required by 49 U.S.C. 30118 and remedying the recall noncompliance as required by 49 U.S.C. 30120 should be granted.

**NHTSA'S DECISION:**

*NHTSA's Analysis:* Reflex reflectors make a vehicle conspicuous to drivers of other vehicles at night and at other times when there is reduced ambient light including dawn and dusk. The advance warning provided by the rear reflex reflectors has the potential to enable drivers to avoid a collision when approaching from the rear.

In reviewing BMW's technical arguments, BMW claims that 2.5 mcd/lux is sufficient "visibility" for reflex reflectors. BMW bases this claim on an equation known as Ricco's law, and provided a link to a University of Calgary webpage

(<http://ucalgary.ca/pip369/mod3/brightness/threelaws>) that provides a very limited description of this science. When compared to the FMVSS No. 108 required minimum performance of 420, 280, and 140 mcd/lux at certain test points and observation angles, the value that BMW claims is sufficient, 2.5 mcd/lux, represents only 0.5%, 0.8%, and 1.7% of the required minimum performance requirements. Based on the agency's review of BMW's technical analysis, we do not believe they have fully accounted for the complexities of real world driving in their proposed minimum perceivable performance. Additional factors must be accounted for in the determination of minimum performance, some include: dirt buildup on the device, older driver's visual perception skills, a variety of ambient illumination and surrounding contrast scenes, and the continually changing viewing geometry between the reflex reflector and observer.

In consideration that the primary function of a rear reflex reflector is to reduce crashes by permitting early detection of unlighted preceding motor vehicles or those parked by the side of the road, NHTSA has concluded that BMW's assessment that 2.5 mcd/lux is a suitable "required reflection coefficient," a value representing less than 1.7% of the FMVSS No. 108 required minimum values, is not compelling.

BMW did not provide any test reports detailing the performance of its noncompliant rear reflex reflectors; however,

it did indicate that the worst measured values were 154, 120, and 91 mcd/lux at certain test points. These values are substantially below the minimum values required by FMVSS No. 108 (420, 280, and 140 mcd/lux) by 63%, 57%, and 35%, respectively. Based on these photometric performance failures, NHTSA believes that BMW's noncompliant reflex reflectors present a consequential risk to motor vehicle safety.

BMW also states that it had not received contacts from vehicle owners, or other road users, regarding this issue. Nor is it aware of any accidents or injuries that have occurred as a result of this issue. NHTSA does not consider the absence of complaints to show that a noncompliance is inconsequential to safety. Vehicle lighting functions as a signal to other motorists and pedestrians; if other motorists found the noncompliant lighting confusing, it is unlikely that those motorists would have been able to identify the subject vehicle and make a complaint to either NHTSA or BMW. Most importantly, the absence of a complaint does not mean there have not been any safety issues, nor does it mean that there will not be safety issues in the future.

*NHTSA's Decision:* In consideration of the foregoing, NHTSA finds that BMW has not met its burden of persuasion that the FMVSS No. 108 noncompliance is inconsequential to motor vehicle safety. Accordingly, BMW's petition is hereby denied and BMW is

obligated to provide notification of, and a remedy for, that noncompliance under 49 U.S.C. 30118 and 30120.

**Authority:** (49 U.S.C. 30118, 30120: delegations of authority at 49 CFR 1.95 and 501.8)

**Jeffrey M. Giuseppe,**

*Acting Associate Administrator,*

*Enforcement.*

**BILLING CODE 4910-59-P**

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