



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2012-0166; Notice 2]

Mercedes-Benz USA, LLC and Daimler AG, Denial of Petition for
Decision of Inconsequential Noncompliance

AGENCY: National Highway Traffic Safety Administration, DOT

ACTION: Notice of petition denial.

SUMMARY: Mercedes-Benz USA, LLC (MBUSA) on behalf of itself and its parent company Daimler AG (DAG), has determined that certain model year (MY) 2013 Mercedes-Benz GLK-Class (X204 platform) multipurpose passenger vehicles (MPVs), do not fully comply with paragraph S5.1.1.6¹ of Federal Motor Vehicle Safety Standards (FMVSS) No. 108, *Lamps, Reflective Devices, and Associated Equipment*. MBUSA filed an appropriate report dated October 9, 2012 pursuant to 49 CFR Part 573 *Defect and Noncompliance Responsibility and Reports*. MBUSA then filed a petition for exemption from the notification and remedy requirements of 49 U.S.C. 30118 on the basis that the defect is inconsequential to motor vehicle safety. We are denying this petition because we believe that the noncompliant parking lamp is not inconsequential to motor vehicles safety.

¹ As published in the 2011 version of 49 CFR 571.108

ADDRESSES: For further information on this decision contact Mike Cole, Office of Vehicle Safety Compliance, the National Highway Traffic Safety Administration (NHTSA), telephone (202) 366-2334, facsimile (202) 366-5930.

SUPPLEMENTARY INFORMATION:

I. MBUSA's petition: Pursuant to 49 U.S.C. 30118(d) and 30120(h) and the rule implementing those provisions at 49 CFR Part 556, MBUSA 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 the petition was published, with a 30-day public comment period, on August 9, 2013, in the Federal Register (78 FR 448769). No comments were received. 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-2012-0166."

II. Vehicles involved: Affected are approximately 2,951 MY 2013 Mercedes-Benz GLK-Class (X204 platform) MPVs manufactured from January 1, 2012 through August 15, 2012.

III. Noncompliance: MBUSA explains that the subject vehicles contain parking lamps that exceed the maximum designated candlepower output level provided in FMVSS No. 108 paragraph

S5.1.1.6; id. Figure 1b (listing maximum candlepower value of 125 cd for parking lamps). Due to a programming issue in the electronic control unit, the voltage in the parking lamp circuit is 12.8 volts which is higher than the design voltage specification of 7 volts in the affected vehicles. This higher voltage causes the lamps to exceed the maximum value listed in FMVSS No. 108.

IV. Rule Text: Paragraph S5.1.1.6 of FMVSS No. 108 requires in pertinent part:

S5.1.1.6 Instead of the photometric values specified in Table 1 of SAE Standards J222 December 1970, or J585e September 1977, a parking lamp or tail lamp, respectively, shall meet the minimum percentage specified in Figure 1a of the corresponding minimum allowable value specified in Figure 1b. The maximum candlepower output of a parking lamp shall not exceed that prescribed in Figure 1b, or of a taillamp, that prescribed in Figure 1b at H or above. If the sum of the percentages of the minimum candlepower measured at the test points is not less than that specified for each group listed in Figure 1c, a parking lamp or taillamp is not required to meet the minimum photometric value at each test point specified in SAE Standards J222 or J585e respectively.

V. Summary of MBUSA's Analyses: MBUSA stated its belief that the subject noncompliance is inconsequential to motor vehicle safety for the following reasons:

Although the parking lamps in the subject vehicles exceed the candlepower limits of FMVSS No. 108, the level of brightness of the lamps is very low. As explained below, to evaluate the impact on motor vehicle safety in actual use, MBUSA analyzed the

brightness of the lamps in use and has confirmed that the potential exceedance is minimal, and below the level perceptible to the human eye during night-time driving operations which would be pertinent to determining potential safety relevance.

MBUSA claims that the agency should consider how the non-compliance affects how drivers perceive the lower beam headlamp and the parking lamp together at night because FMVSS No. 108 requires both lamps to be illuminated at the same time. As noted above, the output limit for parking lamps is 125 cd. The maximum output value for lower beam headlamps is 1,000 cd at 0.5U - 1.5L to L test points (0.5 degrees up from the H-point and from 1.5 degrees left of the vertical centerline to the end of the leftward measurements) and 700 cd for 1 U - 1.5L to L test points (1 degree up from the H-point and from 1.5 degrees left of the vertical centerline to the end of the leftward measurements). See FMVSS No. 108 paragraph S7.7; id. Figure 17-2 (photometric test point values for lower beams). Thus, the maximum output for the combined parking lamp and lower beam headlamp is 1,125 cd (125 cd + 1,000 cd) for the 0.5U test points and 825 cd (125 cd + 700 cd) for the 1U test points.

MBUSA measured the output of the combined parking lamp and lower beam headlamp on the subject vehicles using two different headlamp samples. Two samples were used to evaluate the impact of normal part to part production variations on light output.

In order to provide a complete overview of the brightness of the lights, measurements were done every 10 cm on the two horizontal lines at 0.5U and 1U, from 20 to 100 cm from the vertical centerline to the left, measured at a distance of 25 meters. (This is the same method used for certification testing for lower beam headlamps.)

With the first sample headlamp, all candlepower measurements were below 1,125 cd (for the 0.5U test points) and below 825 cd (for the 1U test points). Thus, for this headlamp, there were no exceedances of the combined brightness standard. For the second headlamp, the candlepower measurements were below 1,125 cd at all measurements for the 0.5U test points, and below 825 cd for half of the 1U test point measurements. The candlepower measurement was slightly above 825 cd (840-920 cd) for five of the 1U test point measurements with the second headlight. Thus, even the maximum measurement of 920 cd for the worst-case measurement location is only 11% above the reference value of 825 cd. Overall, the testing indicates that due to these normal production variations in lower beam headlamps, in many cases, there will be no exceedance of the combined parking lamp/lower beam headlamp maximum candlepower, even with the parking lamp over-voltage. The testing indicated that even in the worst-case measurement locations, with the worst-case lower beam headlamp sample, there was the potential for only an 11%

exceedance of the combined lamp brightness, which is below the human detection threshold.

MBUSA is not aware of any incidents or customer complaints related to the subject noncompliant parking lamps.

MBUSA also notes that NHTSA has granted petitions (55FR37601 and 59FR65428) for non-compliance from the maximum intensity requirements for other lamps required by FMVSS No. 108 in the past that MBUSA believes are similar to this petition. Specifically, MBUSA cited 55 FR 37601 (incorrectly cited as 53 FR 37601) and 59 FR 65428.

MBUSA has informed NHTSA that it has corrected the noncompliance so that all future production vehicles will comply with FMVSS No. 108.

In summation, MBUSA believes that the described noncompliance of its vehicles is inconsequential to motor vehicle safety, and that its petition, to exempt 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.

VI. NHTSA's Analysis of MBUSA's Arguments: NHTSA has reviewed MBUSA's petition and has determined that the noncompliance is not inconsequential to motor vehicle safety. The agency believes that the noncompliant parking lamp will be noticeably brighter than a compliant lamp and potentially glaring to

oncoming drivers, and will mask to some extent the output of the front turn signal lamps, and that this is consequential to safety.

MBUSA's argues that if the parking lamp output were to be combined with the lower beam headlamp output, then the combination would only exceed the combined theoretical maximum photometry requirement by 11% for the worst case scenario, and that this amount would be below the human detection threshold. To support this assertion, MBUSA referenced two prior inconsequentiality petitions that were granted when candela values exceeded the maximum required values by less than 20% and 25%.

Regarding MBUSA's reference to 55 FR 37601, this notice granted an inconsequentiality petition to Hella Inc., for taillamps that exceeded the maximum candlepower upwards of 20% at certain test points. Hella argued that: 1) as installed on the vehicle, the taillamps are driven by a lower voltage than the laboratory test voltage and would have a photometric output less than that seen in NHTSA testing; 2) that studies have established that the human eye cannot detect a change in intensity unless it is more than a 25% increase or decrease; 3) that the intensity of the lamps does not present a safety hazard because of glare; and 4) that Hella was not aware of any complaints, accidents, or injuries related to the noncompliance.

Regarding MBUSA's reference to 59 FR 65428, this notice granted an inconsequentiality petition to General Motors for center high mounted stop lamps (CHMSLs) whose photometric output was partially obscured by a painted section of glazing. In general, with the largest obscuration and lowest performing lamps tested, the CHMSL output failed to meet the minimum photometry requirements by less than 20%.

In both cases, the agency agreed that because the photometric output was within 20% of the required output at the individual test points, that this was not discernable by the naked eye. In fact, the agency stated that up to 25% is a reasonable criterion for use in inconsequentiality decisions.

We are aware of a University of Michigan Transportation Research Institute (UMTRI) report titled "Just Noticeable Differences for Low-Beam Headlamp Intensities" (UMTRI-97-4, February 1997). This report concludes that drivers in oncoming vehicles will not notice differences in the intensity of headlamps that are less than 25 percent. We believe, however, that it would not be appropriate to use this study to judge the merits of MBUSA's application. This is based on two factors.

First, the study focuses only on the lower beam of a headlamp system. The MBUSA vehicles do not comply with the parking lamp photometry requirements. We cannot presume that a study which examines light intensity associated with the lower

beam mode would also apply to the light intensity of a lower beam lamp in combination with a parking lamp. Plus, a lower beam lamp in actual use is susceptible to poor aiming and increased voltage which could increase the lower beam intensity significantly and thus become its own source of glare to oncoming drivers in addition to the noncompliant parking lamp.

Second, the research finds that the just noticeable differences, under controlled conditions, are between 11 and 19 percent. UMTRI concludes that, in real world conditions, the just noticeable differences would be somewhat larger due to the rather simple and uncluttered environment of a controlled study. In a controlled study, observers can devote much more attention to small differences due to the lack of other distractions that are common during driving. This leads UMTRI to conclude that 25 percent is a reasonable value upon which to judge inconsequential noncompliance applications. However, we have noticed in the many complaints received that consumers are very aware of and sensitive to the glare produced by oncoming drivers' headlamps. This public sensitivity leads us to believe that glare in the "real-world" is not necessarily like that in laboratory studies. Many of these complaints can be found at <http://www.regulations.gov> (see dockets: NHTSA-1998-4820; NHTSA-2001-8885; and NHTSA-2002-13957). This demonstrates that glare is of great significance to the public.

Furthermore, the agency previously rejected the argument that other lamps can compensate for noncompliant lamps in two denials of inconsequentiality petitions to Nissan in 1997 (62 FR 63416) and GM in 2004 (69 FR 1778).

We are also aware of a NHTSA sponsored study titled "Driver Perception of Just Noticeable Difference[s] in [of Automotive] Signal Lamp Intensities." [DOT HS 808 209, September 1994] This study demonstrated that a change in luminous intensity of 25 percent or less is not noticeable by most drivers. In applying the just noticeable differences research to the maximums of a parking lamp, 25% would equate to 156cd (for the 125cd maximum requirement) or 312cd (for the 250cd maximum requirement).

In this case, MBUSA did not provide the photometric data for the noncompliant lamp. Rather, it combined the requirements of the parking lamp and the lower beam headlamp to create a theoretical requirement, and argues that the failure of the combined light output is less than 20% of the theoretical requirement. By combining the lower beam and parking lamps to create a theoretical requirement, MBUSA appears to be inflating the "25%" range that the agency would use to evaluate its petition.

To learn more about the performance of the noncompliant parking lamp, the agency requested photometry data from MBUSA. (the data provided by MBUSA is included in Docket NHTSA-2012-

0166) In reviewing the information, the data shows that the noncompliant parking lamp exceeded the maximum photometric requirements at 12 of 18 test points. The overages ranged from 16% to 504% with the majority (7 out of 12) of failures being over 200%. As such, the actual performance of the noncompliant parking lamps is far beyond what the agency would consider to be within the range of the just noticeable differences research and we believe that it will be noticeably brighter than a compliant lamp and potentially glaring to oncoming drivers.

Further, MBUSA did not provide any information regarding the proximity of the noncompliant parking lamp to the front turn signal lamp. FMVSS No. 108 requires that any front turn signal lamp that is within a certain distance of any lamp (such as an auxiliary lower beam or fog lamp used to supplement the lower beam headlamp), to meet higher intensities in order to comply with the standard. For instance, if the front turn signal lamp is within 60mm of the lighted edge of the auxiliary lamp, then the turn signal must be 2.5 times brighter than the "base" turn signal lamp photometric requirements. Other requirements exist as well depending on the proximity of the turn signal lamp to the lighted edge of the auxiliary lamp, however no information was provided by the petitioner on the noncompliant lamp's key relationship to other lamps for the agency to evaluate. Because the performance of these noncompliant parking lamps approaches

the performance of a fog lamp and the close proximity of these lamps to the front turn signal lamps, the agency is concerned that the noncompliant parking lamp may mask the output of a "base" front turn signal lamp. To address our concerns, the agency requested information regarding the certification of the front turn signal lamps. MBUSA responded that the front turn signal lamps were indeed certified to the base photometric requirements.

VII. NHTSA Decision: In consideration of the foregoing, NHTSA has decided that MBUSA has not met its burden of persuasion and that the noncompliance described is inconsequential to motor vehicle safety. Accordingly, MBUSA's petition is hereby denied, and MBUSA must notify owners, purchasers and dealers pursuant to 49 U.S.C. 30118 and provide a remedy in accordance with 49 U.S.C. 30120.

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

Nancy Lummen Lewis
Associate Administrator
for Enforcement

Billing Code: 4910-59-P

[FR Doc. 2014-20140 Filed 08/22/2014 at 8:45 am; Publication
Date: 08/25/2014]