



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2020-0115; Notice 2]

Harbor Freight Tools, Denial of Petition for Decision of Inconsequential Noncompliance

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

ACTION: Denial of petition.

SUMMARY: Harbor Freight Tools (HFT) has determined that certain Kenway 12V Magnetic Trailer Light Kits and Submersible LED Trailer Lights manufactured by Jinhua Eagle King Tools Co., Ltd. (Jinhua) do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 108, *Lamps, Reflective Devices, and Associated Equipment*. HFT filed a noncompliance report dated October 26, 2020, and subsequently petitioned NHTSA on November 23, 2020, for a decision that the subject noncompliances are inconsequential as they relate to motor vehicle safety. This notice announces the denial of HFT's petition.

FOR FURTHER INFORMATION CONTACT: Kelley Adams-Campos, Safety Compliance Engineer, NHTSA, Office of Vehicle Safety Compliance, (202) 366-7479.

SUPPLEMENTARY INFORMATION:

I. Overview:

HFT has determined that certain Kenway 12V Magnetic Trailer Light Kits (“magnetic trailer lights”) and 12V Submersible LED Trailer Lights (“submersible trailer lights”) manufactured by Jinhua Eagle King Tools Co., Ltd., do not fully comply with the requirements of FMVSS No. 108, *Lamps, Reflective Devices, and Associated Equipment* (49 CFR 571.108).¹

¹ The manufacturer-submitted Part 573 refers to this product as a “towing” light kit instead of a “trailer” light kit, which is the term HFT uses in the petition. The submitted petition interchangeably uses the terms “submersible LED trailer lights” and “submersible trailer light kit,” as well as “magnetic trailer light kit” and “magnetic LED trailer light kit.” For ease of reading, these will be hereby referred to as “submersible trailer lights” and “magnetic trailer lights,” respectively.

HFT filed a noncompliance report dated October 26, 2020, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. HFT subsequently petitioned NHTSA on November 23, 2020, for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that these noncompliances are inconsequential as they relate to motor vehicle safety, pursuant to 49 U.S.C. 30118(d) and 30120(h) and 49 CFR part 556, *Exemption for Inconsequential Defect or Noncompliance*.

Notice of receipt of HFT's petition was published with a 30-day public comment period, on August 26, 2021, in the Federal Register (86 FR 47729). 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-2020-0115."

II. Equipment Involved:

Jinhua Eagle King Tools Co., Ltd manufactured the Kenway 12V magnetic trailer lights between November 13, 2019, and December 22, 2019, and the Kenway 12V submersible trailer lights between July 1, 2019, and July 9, 2019. Approximately 3,832 units in total are potentially involved.

III. Rule Requirements:

Paragraphs S7.1.2, S7.1.2.13, S7.1.2.13.1, S7.2, S7.2.13, S7.3, S7.3.13, and S7.3.13.1 of FMVSS No. 108 include the requirements relevant to this petition. Each rear turn signal lamp must be designed to conform to the photometry requirements of Table VII, when tested according to the procedure of paragraph S14.2.1, for the number of lamp compartments or individual lamps, the type of vehicle it is installed on, and the lamp color as specified by S7.1.2.2. Each taillamp must be designed to conform to the photometry requirements of Table VIII, when tested according to the procedure of S14.2.1. Each stop lamp must be designed to conform to the photometry requirements of Table IX, when tested according to the procedure of

paragraph S14.2.1, for the number of lamp compartments or individual lamps and the type of vehicle it is installed on. Table VII specifies the various minimum and maximum photometric intensity requirements for rear turn signal lamps at specified test points. Table VIII specifies the various minimum and maximum photometric intensity requirements for taillamps at specified test points. Table IX specifies the various minimum and maximum photometric intensity requirements for stop lamps at specified test points.

IV. Noncompliances:

HFT explains the noncompliances are that the subject magnetic trailer lights and submersible trailer lights are equipped with turn signal lamps, stop lamps, and/or taillamps that exceed the maximum and/or fail to meet the minimum photometric intensity output requirements, as required by FMVSS No. 108.

In the case of the submersible trailer lights, a third-party test laboratory for HFT found that two of six samples failed to comply with FMVSS No. 108 requirements for turn signal lamps and stop lamps. Specifically, the group minimum photometric intensity for three lighted sections for Group number 3, fell below the requirement of 520 cd. One sample measured 466.33 cd and another sample measured 497.39 cd.

In the case of the magnetic trailer lights, a third-party test laboratory for HFT found that 3 of 11 right-hand samples failed to comply with FMVSS No. 108 requirements. Specifically, the first right-hand sample exceeded the maximum photometric intensity requirement of 420 cd for turn signal lamps and stop lamps, measuring 579.81 cd (520.48 cd after stabilization), and also exceeded the maximum photometric intensity requirement of 25 cd for tail lamps, measuring 31.87 cd (25.7 cd at test point H-V). The second right-hand sample exceeded the maximum photometric intensity requirement of 420 cd for turn signal lamps and stop lamps, measuring 426.87 cd (361.61 cd after stabilization). Lastly, the third right-hand sample exceeded the maximum photometric intensity requirement of 420 cd for the turn signal lamps and stop lamps, measuring 440.27 cd (418.91 cd after stabilization).

V. Summary of HFT's Petition:

In its petition, HFT describes the subject noncompliances and contends that the noncompliances are inconsequential as they relate to motor vehicle safety. In support of its petition, HFT submitted the reasoning summarized below. The views and arguments described in this section do not necessarily reflect the views of the Agency.

HFT believes the subject noncompliances are inconsequential to motor vehicle safety because the affected trailer lights exceed the maximum and/or minimum photometric intensity output requirements by small margins. According to HFT, the deviation is not “sufficient enough to be noticeable to other road users or create an increased safety risk.”

Submersible Lights

HFT explains that for the two submersible trailer light samples that did not meet the required candela values, all of the individual test points within Zone 3² were found to be at least 60 percent of the specified value as permitted in the footnote of Table VII and IX of FMVSS No. 108 and were more than 90 percent of the value for the individual test point in most cases. Further, HFT says that while the two noncompliant submersible trailer light samples measured below the required minimum candela value for Zone 3, they fulfilled 88.6-95.6 percent of the requirement for the zone. Additionally, HFT notes that none of the individual test points measured below 60 percent of the specified candela value for the test point. Therefore, HFT believes that the effects on the photometric output of the zone would overall be minimal.

Alternatively, HFT contends that its petition could be granted on the basis that Zones 1, 2, 4, and 5 all exceeded the minimum candela value required for their respective zone by 27-44 percent in one sample and 26-37 percent in the other sample. Therefore, according to HFT, the noncompliant Zone 3 “is offset by the substantial (and compliant) exceedances in the remaining zones.” HFT states that in consideration of the overall performance of the lamp, the light from

² “Zone” as referred to by the petitioner is actually “Group” in FMVSS No. 108 which is a collection of test points where when combined must meet a separate group minimum photometric intensity requirement.

the other zones “would compensate for the deviation in Zone 3.” HFT states that this reasoning is consistent with prior NHTSA decisions.³

Magnetic Lights

HFT explains that for the three magnetic trailer light samples that did not meet the required candela values, all complied with the luminosity requirements at all other test points and all other FMVSS No. 108 requirements to which they were tested.

HFT states that NHTSA has previously granted petitions for inconsequential noncompliance “when the noncompliance is imperceptible or nearly imperceptible to vehicle occupants or surrounding traffic.” HFT contends that when the photometric intensity level is within 25 percent above or below the limit, the difference in the light being emitted is imperceptible to other drivers. HFT states that this metric has been applied to various types of lighting sources, including turn signal lighting.⁴ Furthermore, HFT states that NHTSA has applied this reasoning when considering noncompliances with particular zones, not just individual test points.⁵ HFT states that for each of the samples previously described, the values deviated within 25 percent of values that are required by FMVSS No. 108.

HFT believes that there is no increased risk of glare to approaching drivers for the magnetic trailer lights because the candela values exceed the requirement by less than 25 percent.⁶

For both submersible and magnetic lights, HFT adds that NHTSA has previously recognized “the inherent challenges to manufacture all lamps so that each and every test point within the lamp meets the minimum criteria.” HFT contends that this is relevant to the subject

³ See *General Motors Corporation; Grant of Application for Decision of Inconsequential Noncompliance*, 61 Fed. Reg. 1663 (January 22, 1996); see also *BMW of North America, Grant of Petition for Decision of Inconsequential Noncompliance*, 82 FR 55484 (November 21, 2017).

⁴ See Huey, R., Dekker, D. and Lyons, R. (1994); Driver perception of just-noticeable differences of automotive signal lamp intensities (Report No. DOT HS 808 209).

⁵ See *General Motors Corporation; Grant of Application for Decision of Inconsequential Noncompliance*, 61 FR 1663 (January 22, 1996).

⁶ See *Grant of Petition for Determination of Inconsequential Noncompliance; of Hella, Inc.*, 55 FR 37601 (September 21, 1990).

noncompliances because of the 24 sets of lamps tested by a third-party test laboratory, with production dates from June 2019 to December 2019, two samples of the submersible trailer lights and three samples of the magnetic trailer lights did not comply with the photometric requirements. HFT believes that this indicates that the subject lamps were “designed to comply” with FMVSS No. 108 and the results of the evaluation “indicate an isolated number of random failures, not a systemic lapse in production processes.”⁷

HFT notes that it has not received any reports or complaints in relation to the subject noncompliances. HFT contends that this absence of reports supports its conclusion that the noncompliances are undetectable to surrounding drivers.

HFT concludes the subject noncompliances are inconsequential as they relate to motor vehicle safety and that its petition to be exempted from providing notification of the noncompliance, as required by 49 U.S.C. 30118, and a remedy for the noncompliance, as required by 49 U.S.C. 30120, should be granted.

HFT’s complete petition and all supporting documents are available by logging onto the FDMS website at <https://www.regulations.gov> and by following the online search instructions to locate docket number “NHTSA-2020-0115.”

VI. NHTSA’s Analysis:

The burden of establishing the inconsequentiality of a failure to comply with a *performance requirement* in an FMVSS is substantial and difficult to meet. Accordingly, the Agency has not found many such noncompliances inconsequential.⁸

In determining inconsequentiality of a noncompliance, NHTSA focuses on the safety risk to individuals who experience the type of event against which a recall would otherwise protect.⁹

⁷ See *Federal Motor Vehicle Safety Standards; Lamps, Reflective Devices, and Associated Equipment* 83 FR 51766 (October 12, 2018).

⁸ Cf. *Gen. Motors Corporation: Ruling on Petition for Determination of Inconsequential Noncompliance*, 69 FR 19897, 19899 (Apr. 14, 2004) (citing prior cases where noncompliance was expected to be imperceptible, or nearly so, to vehicle occupants or approaching drivers).

⁹ See *Gen. Motors, LLC; Grant of Petition for Decision of Inconsequential Noncompliance*, 78 FR 35355 (June 12, 2013) (finding noncompliance had no effect on occupant safety because it had no effect on the proper operation of the occupant classification system and the correct deployment of an air bag); *Osram Sylvania Prods. Inc.; Grant of*

In general, NHTSA does not consider the absence of complaints or injuries when determining if a noncompliance is inconsequential to safety. The absence of complaints does not mean vehicle occupants have not experienced a safety issue, nor does it mean that there could not be safety issues in the future.¹⁰ Moreover, this petition concerns third-party aftermarket lighting products that would be added to an existing vehicle. It would be difficult, if not impossible, for roadway users to identify specific products installed on others' vehicles if the roadway users were even aware of the products' existence. This is especially true given that most encounters occur with moving vehicles and, in some cases, under nighttime conditions. Given these circumstances, it is extremely unlikely that potentially affected roadway users would file complaints about lighting products with either the manufacturer or with NHTSA. Therefore, the Agency does not find this argument persuasive. Further, because each inconsequential noncompliance petition must be evaluated on its own facts and determinations are highly fact-dependent, NHTSA does not consider prior determinations as binding precedent.

As HFT's petition covers two similar models of lighting equipment, this analysis will initially cover noncompliances and petitioner's arguments related to the submersible trailer lights, followed by noncompliances and petitioner's arguments related to the magnetic trailer lights, and finally address petitioner's arguments which apply to both.

Submersible Lights

In the case of the submersible trailer lights, one consideration in our analysis is if the lamps are visible to other roadway users. One aspect of visibility is related to the requirements in FMVSS No. 108 that pertain to photometric output of the lamps. Individual test points are measured to determine if they meet the photometric requirements of the standard. NHTSA does

Petition for Decision of Inconsequential Noncompliance, 78 FR 46000 (July 30, 2013) (finding occupant using noncompliant light source would not be exposed to significantly greater risk than occupant using similar compliant light source).

¹⁰ See *Morgan 3 Wheeler Limited; Denial of Petition for Decision of Inconsequential Noncompliance*, 81 FR 21663, 21666 (Apr. 12, 2016); see also *United States v. Gen. Motors Corp.*, 565 F.2d 754, 759 (D.C. Cir. 1977) (finding defect poses an unreasonable risk when it "results in hazards as potentially dangerous as sudden engine fire, and where there is no dispute that at least some such hazards, in this case fires, can definitely be expected to occur in the future").

not concur with HFT's suggestion to grant this petition based on surrounding zones. When the rule was adopted, per 37 FR 21328, the addition of the zone/group requirement was in response to the Agency's recognition that the original requirement that taillamps, stop lamps, parking lamps, and turn signal lamps meet minimum photometric candlepower requirements at up to 27 individual test points appeared unnecessarily severe, since deviances at individual test points are generally not great enough to be discernible to the human eye. The Agency also stated that the addition of the zone/group requirement will not have a significant effect on motor vehicle safety and was designed to set up a more realistic and cost-effective method of determining compliance with photometric requirements. For these reasons, the zone/group requirement was added and permits flexibility to allow test points within a single group to fall below the minimum requirement by up to 40 percent, provided the minimum requirement for the group is met.

NHTSA disagrees with the petitioner's argument that failing to meet the photometric requirements applicable to individual "groups" by an amount of up to 25 percent is inconsequential to safety. Deviating from requirements for a group of points degrades the overall visibility of the lamp beyond the flexibilities already allowed for in FMVSS No. 108. Contrary to a past grant of a General Motors petition, 61 FR 1663, NHTSA now believes that the rationale for that grant – where one zone/group's performance can compensate for another's failure – is not sufficiently compelling to grant a petition for inconsequential noncompliance. Zones/groups are a collection of specific test points and make up a portion of a lamp's photometric output. NHTSA does not believe that even if one zone/group greatly exceeds the requirements, that it necessarily compensates for another, noncompliant zone/group such that a noncompliance is inconsequential to safety. The requirements for individual groups themselves, as previously explained, incorporate flexibilities and allowances into FMVSS No. 108. Further, the Agency notes that inconsequential noncompliance determinations are necessarily highly fact dependent. As such, NHTSA does not consider prior determinations as binding precedent.

Second, the fabricating manufacturer, Jinhua, tested the subject lamps at 12.8V, yet HFT's test failed to meet the minimum photometric requirements when the products were tested at 13.5V. Specifically, failing to meet the minimum photometric requirements when tested at 13.5V leads NHTSA to conclude that the submersible trailer lights would likely deviate further from the photometric requirements when tested at 12.8V. According to HFT's third-party test laboratory report, report no. 200103-03C, page 4, the turn signal lamps and stop lamps had a ratio multiplier of 91.2 percent of the original value for 12.8V. Meaning, the photometric intensity is expected to be 91.2 percent of the values from 13.5V if tested at 12.8V at all test points for turn signal lamps and stop lamps. Therefore, we believe the lamp could underperform in use leading to an increased risk to safety.

Magnetic Lights

In the case of the magnetic trailer lights, the noncompliance is exceeding photometric maximum requirements at certain test points. Exceeding requirements at specific test points can cause glare that NHTSA recognizes as a safety concern. Here, the third-party test data provided by HFT showed that the magnetic trailer lights were tested at 13.5V. At that voltage, the worst-case photometric value exceeded the maximum requirement of 420 candela by 38.1 percent. At this level, NHTSA is not persuaded that the noncompliance present in these magnetic trailer lights is inconsequential to safety because of glare to other drivers.¹¹

While HFT argues that NHTSA has previously granted inconsequentiality petitions when the noncompliance is imperceptible or nearly imperceptible to vehicle occupants or surrounding traffic, the Agency considers each petition on its own merits. Again, NHTSA determinations are highly fact dependent, and prior determinations do not bind the agency to grant the petition at issue here. In particular, the BMW decision notice cited by HFT, 82 FR 55484, does not appear

¹¹ The Agency also notes that HFT's calculation for the percent of exceedance was incorrect. The test report submitted by HFT indicates that the worst-case photometric value corresponds to 579.81 cd at 13.5V after one minute for the stop lamp. HFT claimed that the value, 579.81 cd, exceeded the standard by 27.6 percent. NHTSA does not need to determine whether a device that exceeded the standard by 27.6 percent would be an inconsequential noncompliance for the purposes of ruling on this petition and declines to do so here.

relevant to this petition as it concerns a failure to meet the illumination ratio requirement for license plate lamps. HFT also contends, relying on language in DOT HS 808 209, “Driver Perception of Just Noticeable Differences of Automotive Signal Lamp Intensities,” that a 25 [percent] deviation from a lighting requirement is imperceptible and thus inconsequential. We reject that argument here, as we have in other recent decisions, because the study does not apply to the noncompliances in question.¹² Here, this study is not applicable to the noncompliance concerning the zones/groups requirements of paragraph S7.1.2.13, Table VII because the study did not evaluate perception of zones or groups. Further, while HFT mentioned that there is no increased risk of glare to approaching drivers for the magnetic trailer lights, the study does not directly address the risk/potential of glare.

NHTSA is not persuaded by HFT’s argument stating that their products were “designed to comply,”¹³ NHTSA’s Final Rule on ADB noted that the “designed to conform” language was a product of the technology available back in 1967, and that NHTSA may not come to the same conclusion if it were to revisit the issue today in light of the fact that lighting equipment design, technology, and manufacturing have evolved and advanced since the late 1960s.¹⁴

Notwithstanding this, due to the petitioner’s lack of root cause analysis, NHTSA cannot ascertain if the noncompliance was a result of poor design, technology, or manufacturing of the subject lamps. In the subject case, the root cause is perhaps moot as NHTSA observes that the petitioners’ own data appears to demonstrate that the subject lamps did not consistently comply with the regulation. Therefore, NHTSA is not persuaded by the petitioner’s arguments that its products were designed to conform.

VI. NHTSA’s Decision:

¹² See *Weldon, Denial of Petition for Decision of Inconsequential Noncompliance*, 87 FR 6646 (February 4, 2022); see also *Mack Trucks, Inc., Grant of Petition for Decision of Inconsequential Noncompliance*, 87 FR 23017 (April 18, 2022).

¹³ While HFT’s petition uses the phrase, “designed to comply” and the Final Rule on ADB uses the phrase, “designed to conform,” both phrases are used interchangeably as seen in FMVSS No. 108’s regulatory text.

¹⁴ *Federal Motor Vehicle Safety Standards; Lamps, Reflective Devices, and Associated Equipment, Adaptive Driving Beam Headlamps*, 87 FR 9916, 9940 n.92 February 22, 2022.

In consideration of the foregoing, NHTSA has decided that HFT has not met its burden of persuasion that the subject FMVSS No. 108 noncompliances are inconsequential to motor vehicle safety. Accordingly, HFT's petition is hereby denied and HFT is consequently obligated to provide notification of and free remedy for those noncompliances under 49 U.S.C. 30118 and 30120.

(Authority: 49 U.S.C. 30118, 30120; 49 CFR part 556; delegations of authority at 49 CFR 1.95 and 501.8)

Eileen Sullivan,

Associate Administrator for Enforcement.

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