



**DEPARTMENT OF TRANSPORTATION**

**[4910-EX-P]**

**Federal Motor Carrier Safety Administration**

**[Docket No. FMCSA–2013–0436]**

**Parts and Accessories Necessary for Safe Operation; Denial of the International Window Film Association’s Exemption Application**

**AGENCY:** Federal Motor Carrier Safety Administration (FMCSA), DOT.

**ACTION:** Denial of exemption application.

**SUMMARY:** FMCSA denies an exemption application from the International Window Film Association (IWFA) to allow the use of glazing in the windows to the immediate right and left of the driver that does not meet the light transmission requirements specified in the Federal Motor Carrier Safety Regulations (FMCSR). The current rule permits windshields and side windows of commercial motor vehicles (CMVs) to be tinted as long as the light transmission is not restricted to less than 70 percent of normal. While IWFA contended that a reduction of light entering the truck cab interior can (1) significantly improve driver comfort, (2) reduce eye strain, and (3) reduce the heat load of the interior environment, thus making the driver more comfortable as well as lowering energy use for cooling, it failed to provide any evidence that motor carriers operating CMVs equipped with glazing that blocks more normal light than currently permitted will achieve a level of safety that is equivalent to, or greater than, the level of safety that would be obtained by complying with the regulation.

**FOR FURTHER INFORMATION CONTACT:** Mr. Mike Huntley, Vehicle and Roadside Operations Division, Office of Bus and Truck Standards and Operations, MC-PSV, (202) 366-5370; Federal Motor Carrier Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001.

**SUPPLEMENTARY INFORMATION:**

**Background**

Section 4007 of the Transportation Equity Act for the 21st Century (TEA- 21) [Pub. L. 105-178, June 9, 1998, 112 Stat. 401] amended 49 U.S.C. 31315 and 31136(e) to provide authority to grant exemptions from the FMCSRs. On August 20, 2004, FMCSA published a final rule (69 FR 51589) implementing section 4007. Under this rule, FMCSA must publish a notice of each exemption request in the **Federal Register** (49 CFR 381.315(a)). The Agency must provide the public with an opportunity to inspect the information relevant to the application, including any safety analyses that have been conducted. The Agency must also provide an opportunity for public comment on the request.

The Agency reviews the safety analyses and the public comments and determines whether granting the exemption would likely achieve a level of safety equivalent to or greater than the level that would be achieved by the current regulation (49 CFR 381.305). The decision of the Agency must be published in the **Federal Register** (49 CFR 381.315(b)). If the Agency denies the request, it must state the reason for doing so. If the decision is to grant the exemption, the notice must specify the person or class of persons receiving the exemption and the regulatory provision or provisions from which an exemption is granted. The notice must also specify the effective period of the exemption

(up to 2 years) and explain the terms and conditions of the exemption. The exemption may be renewed (49 CFR 381.315(c) and 49 CFR 381.300(b)).

### **IWFA Application for Exemption**

IWFA applied for an exemption from 49 CFR 393.60(d) to allow the use of glazing in the windows to the immediate right and left of the driver that does not meet the light transmission requirements specified in the FMCSRs. A copy of the application is included in the docket referenced at the beginning of this notice.

Section 393.60(d) of the FMCSRs permits coloring or tinting of windshields and the windows to the immediate right and left of the driver, as long as the “parallel luminous transmittance through the colored or tinted glazing is not less than 70 percent of the light at normal incidence in those portions of the windshield or windows which are marked as having a parallel luminous transmittance of not less than 70 percent.” The transmittance restriction does not apply to other windows on the commercial motor vehicle.

In its application, IWFA states:

Many commercial operators, however, have been unable to obtain the approved film products in a timely and local basis; this has generated a significant volume of inquiries to federal, state, and association offices. We are therefore requesting a favorable consideration for the use of a market-standard 50%-type of film with a 7% measurement tolerance (to accommodate variances in glass, glass condition, film manufacturing variation, and meter differences.) This would allow the standard 50%-type film to be used on CMVs for the windows to the immediate right and left of the driver. This film is the same minimum visibility requirement used in the majority of states for automobiles and is essentially “clear” to the extent that, in most cases, it is difficult to determine if a vehicle even has had film applied. Since a reduction of light entering the truck cab interior will decrease not only available visible light but also scattered light (sometimes called “interference haze” by optical researchers), it can significantly improve driver comfort and reduce eye strain while also allowing films to be used which can also reduce the heat load of the interior environment, thus making the driver more comfortable as well as lowering energy use for cooling.

In support of its application, IWFA also provided an excerpt from an article titled “Safety Benefits and Costs of Tinted Glazing” published in 1988 by Harold Wakeley of the IIT Research Institute of Chicago.

In addition, IWFA stated:

This level of application would retain the industry’s commitment to the enforcement community and also provide the commercial fleet operator with the expanded benefits of a larger number of film products which can provide energy and emissions improvements. It should be noted that while there may be no additional improvement in UV protection from that received by the current standard of 70 percent, the added benefit of fuel savings (and therefore greenhouse gas reductions) as well as reduced glare (haze) and enhanced driver comfort are greatly expanded by the benefits associated with the use of the requested level of film on CMVs.

### **Safety Requirements**

Section 393.60(a) of the FMCSRs requires that “Glazing material used in windshields, windows, and doors on a motor vehicle manufactured on or after December 25, 1968, shall at a minimum meet the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 205 in effect on the date of manufacture of the motor vehicle.”

NHTSA is authorized to issue safety standards applicable to new motor vehicles and motor vehicle equipment under 49 U.S.C. 30101 et seq. These safety standards establish minimum performance requirements for motor vehicles and motor vehicle equipment in order to “reduce traffic accidents and deaths and injuries resulting from traffic accidents” [49 U.S.C. 30101]. Under this authority, NHTSA issued FMVSS No. 205, “Glazing materials,” which applies to all new vehicles and all new glazing materials for use in motor vehicles. FMVSS No. 205 specifies performance requirements and permissible locations for the types of glazing that may be installed in motor vehicles. The standard incorporates by reference American National Standards Institute (ANSI)

Standard Z26.1, “Safety Code for Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways,” (Z26). The requirements in Z26 are specified in terms of performance tests that the various types of glazing must pass.

One of the tests is for luminous, or light, transmittance. This test measures the regular (parallel) transmittance of a sample of the glazing, in terms of the percentage of incident light that passes through the glazing. During the test, light strikes the glazing at a 90 degree angle. To pass the test, the glazing must allow 70 percent of the incident light to pass through.

The amount of light transmitted through vehicle glazing affects the ability of the driver to see objects on the road. Low light transmittance can make it difficult to detect low contrast objects, such as pedestrians, whose luminance and coloring causes them to blend with the background of the roadside environment. The effect of low light transmittance levels on the driver’s vision is most pronounced at dusk and night when the ambient light level is low. This is because the “contrast sensitivity” of the eye diminishes as the overall brightness of the scene decreases. This lower contrast sensitivity makes it especially difficult to discern low contrast objects. This problem is most acute for older drivers who have poorer contrast sensitivity. Contrast sensitivity declines by a factor of two about every 20 years after age 30. Thus, older drivers have poorer dusk and night vision.

The light transmittance requirements must be met by all glazing installed in windows that are “requisite for driving visibility.” For CMVs, glazing that meets the 70 percent light transmittance requirement is required in the windshield and the windows to the immediate left and right of the driver. Section 393.60 of the FMCSRs does not

require other windows on CMVs (i.e., rear windows) to meet the 70 percent light transmittance requirement, as Section 393.80 of the FMCSRs requires every bus, truck, and truck tractor to be equipped with two rear-vision mirrors, one at each side, firmly attached to the outside of the motor vehicle and so located as to reflect to the driver a view of the highway to the rear, along both sides of the vehicle. These rear-vision mirrors must meet the requirements of FMVSS No. 111, “Rearview mirrors,” in effect at the time the vehicle was manufactured.

### **NHTSA Rulemaking and Report to Congress**

On August 10, 1988, a group of businesses submitted a petition for rulemaking to NHTSA on the issue of light transmissibility for motor vehicle glazing. Specifically, NHTSA was petitioned to amend FMVSS No. 205 to permit 35 percent minimum luminous transmittance plastic film on glazing in the side and rear locations of passenger cars. The petition was accompanied by a report, “Safety Benefits and Costs of Tinted Vehicle Glazing” by the Illinois Institute of Technology Research Institute (IITRI) – *the same report cited by IWFA in the subject exemption application*. On July 20, 1989, NHTSA published a notice in the **Federal Register** granting the petition and requesting public comment on the issues raised in the petition (54 FR 36427).

The House Appropriations Committee Report accompanying the Department of Transportation Appropriations Act for Fiscal Year 1991 requested NHTSA to report to the House and Senate Committees on Appropriations on the adequacy of current regulations governing window tinting. In March 1991, NHTSA issued a Report to Congress on Tinting of Motor Vehicle Windows which, among other things, concluded:

- While it is not possible to quantify the safety effects of lowering the light transmittance through window tinting, data indicate that extensive tinting can

reduce the ability of drivers to detect objects, which could lead to an increase in crashes.

- The benefits of tinting do not appear great enough to justify any loss in safety that may be associated with allowing excessive tinting of windows. Further, technology already being applied in production car windows can reduce the heat build up in the occupant compartment while preserving the driver's visibility. A greater reduction in the ability of drivers to see through the windshield, rear window or front side windows would be expected to decrease highway safety.

On January 22, 1992, NHTSA published a notice of proposed rulemaking in the **Federal Register** to amend FMVSS No. 205 to (1) revise the light transmittance requirements to replicate real-world conditions more closely, (2) adjust the required light transmittance levels in the standard in response to the new test procedure and other considerations, and (3) make the light transmittance requirements consistent for passenger cars and light trucks (57 FR 2496).

On July 14, 1998, NHTSA published a notice in the **Federal Register** withdrawing the proposed amendments to FMVSS No. 205 to revise its light transmittance requirements (63 FR 36427). In part, NHTSA concluded that there was limited prospect of commensurate increases in visibility and safety, and indicated that it wanted to better define the relationship between light transmittance and highway safety before requiring differing transmittance values for different vehicle windows.

### **Public Comments**

On January 23, 2014, FMCSA published a notice of the IWFA application and asked for public comment (79 FR 3916). The Agency received 16 comments.

The Agency received 12 comments in support of IWFA's exemption application, including 10 from individual drivers, one from a motor carrier representative, and one from the American Trucking Associations (ATA), a united federation of motor carriers, state trucking associations, and national trucking conferences. The individual drivers and

the motor carrier representative cited many of the same (or similar) benefits identified by IWFA in its exemption application in support of allowing the use of glazing that blocks more normal light than currently permitted, including (1) reduced glare, (2) reduced eye stress/strain, tiredness, and headaches due to heat, (3) increased driver comfort and awareness due to decreased cab temperatures, (4) increased privacy at truck stops, (5) reduced risk of skin cancer, and (6) increased availability and lower cost when compared to compliant glazing. ATA supported the exemption application, stating that it “believes that this exemption will not adversely impact safety and may help reduce heat load thereby lowering energy use and improving fuel economy.”

*FMCSA Response:* None of the commenters that supported the exemption application provided any data or information to demonstrate that an equivalent level of safety would be maintained with the reduction in light transmittance. FMCSA agrees with NHTSA’s previous conclusions that (1) the suggested benefits of reduced light transmission levels are minimal and can be better achieved through other means, and (2) a reduction in the ability of drivers to see through the windshield, rear window or front side windows would be expected to decrease highway safety. Consistent with the previous findings by NHTSA, FMCSA believes that any potential benefits of reduced light transmittance are not great enough to justify any corresponding loss in safety that may be associated such reduction.

The Agency received four comments opposed to IWFA’s exemption application, including two from individual drivers, one from a retired police officer, and one from Advocates for Highway and Auto Safety (Advocates). The individual drivers noted that window tinting (1) reduces visibility, explicitly at night, and (2) inhibits the ability to

establish eye contact with other drivers and pedestrians at intersections. The retired police officer cited concerns regarding the safety of law enforcement officials, noting that tinted windows make it more difficult to see how many persons are occupying vehicles, and possible weapons, drugs, or contraband on board the CMV.

Advocates stated that as the IWFA exemption, if granted, would apply to all CMVs, it was concerned that:

[t]he exemption would amount to a whole cloth change of current regulation for all commercial motor vehicles which should more appropriately be handled through rulemaking rather than exemption procedures. Advocates is further concerned that should this exemption be granted, at the end of the two-year exemption period there would be widespread non-compliance unless the exemption were extended, which would lead to repetitive requests for renewal of the exemption. This situation would effectively eliminate the current regulation, or require that portion of the fleet using the proposed film to replace the window films or glazing in order to conform to the existing rule without the exemption. The FMCSA should deny the present petition and address the proposal through the rulemaking process.

In addition, Advocates states that IWFA “neither performed nor included any form of safety analysis in the Application nor provided any form of explanation as to how the Applicant would ensure that the proposed alternative window film light transmission levels would achieve an equivalent level of safety as required by both statute and regulation.” Specifically, Advocates stated:

[t]here is no discussion of safety or the impact that decreased light transmission may have under other conditions, such as at night when this may reduce the driver’s ability to view objects and vehicles through the side windows and mirrors. While the Applicant does cite a decades old paper on the benefits of reduced light transmittance, there is no discussion of this effect in any way, let alone in terms of safety, on the operation of a commercial vehicle. Additionally the citing of summary findings from a single work of decades old research in no way qualifies as an “assessment of safety” as required by statute and regulation.

*FMCSA response:* The comments regarding reduced visibility, especially at night, are consistent with previous NHTSA findings, and FMCSA agrees that this

reduced visibility would likely lead to a reduction in safety. FMCSA agrees with Advocates that none of the commenters that supported the exemption application provided any data or information to demonstrate that an equivalent level of safety would be maintained with the reduction in light transmittance. Lacking any such data or information, FMCSA is unable to make a determination – as required in 49 CFR 381.305(a) – that motor carriers would be able to maintain a level of safety equivalent to, or greater than, the level achieved without the exemption.

### **FMCSA Decision**

The purpose of FMVSS No. 205 is to (1) reduce injuries resulting from impact to glazing surfaces, (2) minimize the possibility of occupants being thrown through the vehicle windows in collisions, and, specifically with respect to the subject IWFA exemption application, (3) *ensure a necessary degree of transparency in motor vehicle windows for driver visibility*. While IWFA contended that a reduction of light entering the truck cab interior can (1) significantly improve driver comfort, (2) reduce eye strain, and (3) reduce the heat load of the interior environment thus making the driver more comfortable as well as lowering energy use for cooling, it failed to provide any evidence that motor carriers operating CMVs equipped with glazing that blocks more normal light than currently permitted will achieve a level of safety that is equivalent to, or greater than, the level of safety that would be obtained by complying with the regulation.

NHTSA's 1991 Report to Congress acknowledged that "Although all studies show a lowering of the ability to detect targets as tint level increases, it is not possible to predict accurately the numerical relationship between accidents and tinting." At the same time, however, the same report states "The loss, due to excessive tinting and its effect on

light transmittance, of the ability to see low contrast objects such as people, animals or unlighted vehicles *is clearly a safety problem.*” [Emphasis added].

Based on all of the above, FMCSA has made a determination to deny the IWFA exemption application. Absent any amendments to FMVSS No. 205 and/or ANSI Z26.1 referenced therein, and lacking any objective data or analyses demonstrating that a reduction of the required light transmittance from 70 percent to 50 percent in CMVs will not adversely affect the level of safety of CMV operations, FMCSA is unable to make a determination – as required in 49 CFR 381.305(a) – that motor carriers would be able to maintain a level of safety equivalent to, or greater than, the level achieved without the exemption.

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