



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

April 13, 2006

400 Seventh St., S.W.  
Washington, D.C. 20590

In Reply Refer To:  
HSA-10/WZ-233

Mr. Chuck Mettler, R&D/QC  
Plastic Safety Systems, Inc.  
2444 Baldwin Road  
Cleveland, Ohio 44104

Dear Mr. Mettler:

Thank you for your email correspondence of December 9, 2005, requesting the Federal Highway Administration (FHWA) acceptance of the addition of lightweight warning lights to your company's Type III Barricades. You requested that we find these modified devices acceptable for use on the National Highway System (NHS) under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

**Introduction**

The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "INFORMATION: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices are those lightweight devices which are to be self-certified by the vendor, Category II devices are other lightweight devices which need individual crash testing but with reduced instrumentation, Category III devices are barriers and other fixed or heavy devices also needing crash testing with normal instrumentation, and Category IV devices are trailer mounted lighted signs, arrow panels, etc. for which crash testing requirements have not yet been established. The second guidance memorandum was issued on August 28, 1998, and is titled "INFORMATION: Crash Tested Work Zone Traffic Control Devices." This later memorandum lists devices that are acceptable under Categories I, II, and III. Our new acceptance process was outlined in our memorandum "FHWA Hardware Acceptance Procedures – Category 2 Work Zone Devices" dated November 11, 2005.

Plastic Safety Systems Type III barricades were found acceptable in the following FHWA acceptance letters:

WZ-61	December 13, 2000	8 foot wide PSS Type III Plastic Barricade
WZ-102	April 12, 2002	8 foot wide PSS Type III Plastic Barricade with lightweight warning light and modified rail spacing



WZ-152	April 10, 2003	Type III barricade with "ANCHOR" base system
WZ-166	November 12, 2003	12 foot wide PSS Type III Plastic Barricade, 5 feet high 6 foot wide PSST Type III Plastic Barricade, 7 feet high 8 foot wide PSST Type III, Telespar frame, 5 feet high

### Findings

Past crash testing of generic and proprietary Type III barricades have shown that lightweight warning lights (approximately 1.5 kg or less) pose little risk of injury to vehicle occupants. Indeed, in our acceptance letter WZ-85 we accepted the use of lightweight warning lights to previously accepted Type III steel framed barricades. Your own tests have shown that the PSS plastic framed barricades performed in an acceptable manner when using lightweight lights. Therefore, the Type III Barricades in the FHWA acceptance letters listed above are acceptable for use on the NHS under the range of conditions tested with or without one or two lightweight warning lights, when proposed by a State.

This letter may be considered an amendment to the FHWA acceptance letters WZ-61, WZ-102, WZ-152, and WZ-166.

Please note the following standard provisions that apply to the FHWA letters of acceptance:

- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-233, shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.
- The PSS Type III barricades may include patented elements, and if so are considered "proprietary." The use of proprietary work zone traffic control devices in Federal-aid projects is generally of a temporary nature. They are *selected by the contractor* for use as needed and removed upon completion of the project. Under such conditions they can be presumed to meet requirement "a" given below for the use of proprietary products on Federal-aid projects. On the other hand, if proprietary devices are *specified by a highway agency* for use on Federal-aid projects: (a) they must be supplied through competitive

bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternative exists; or (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, copies of which were included with previous correspondence.

- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

Sincerely yours,

*/original signed by George E. Rice, Jr./*

*~for~*

John R. Baxter, P.E.  
Director, Office of Safety Design  
Office of Safety

FHWA:HSA-10:NArtimovich:tb:x61331:4/5/06

File: h://directory folder/artimovich/WZ233-PlasticSafetyFIN.doc

cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;  
N.Artimovich, HSA-10)