February 11, 2014

In Reply Refer To:
HSST/WZ-326

Mr. Henry A. Ross
Director of Government Relations
Plasticade
7700 N. Austin Avenue
Skokie, Illinois 60077

Dear Mr. Ross:

This letter is in response to your request for the Federal Highway Administration (FHWA) to review roadside safety systems for eligibility for reimbursement under the Federal-aid highway program.

Name of system: Safetycade Type II Barricade and Safetycade Extended Vertical Panel Barricade “Verticade”
Type of system: Work Zone Traffic Control Devices
Test Level: NCHRP Report 350 Test Level 3
Testing conducted by: N/A
Date of request: August 22, 2013
Request completed: December 14, 2013

Decision
The following devices remain eligible, with details provided in the previous FHWA letters attached as integral parts of this letter:

- Safetycade Type II Barricade and Safetycade Extended Vertical Panel Barricade “Verticade”

Based on a review of crash test results submitted by the manufacturer certifying the devices described herein met the crash test and evaluation criteria of the National Cooperative Highway Research Program (NCHRP) Report 350, the devices were deemed eligible for reimbursement under the Federal-aid highway program. Eligibility for reimbursement under the Federal-aid highway program does not establish approval or endorsement by the FHWA for any particular purpose or use.
The FHWA, the Department of Transportation, and the United States Government do not endorse products or services and the issuance of a reimbursement eligibility letter is not an endorsement of any product or service.

**Requirements**

To be found eligible for Federal-aid funding, roadside safety devices should meet the crash test and evaluation criteria contained in the NCHRP Report 350 or the American Association of State Highway and Transportation Officials’ Manual for Assessing Safety Hardware (MASH).

**Description**

The device and supporting documentation are described in the attached FHWA letters:

- **WZ-1** March 18, 1997  WLI Industries  Safetycade barricade
- **WZ-15** July 30, 1999  WLI Industries  Safetycade Vertical Panel
- **WZ-80** July 10, 2001  United Rentals  Rev. Safetycade Vertical Panel “Verticade”

In your email of August 22, 2013, you stated that Plasticade has purchased the rights to the Safetycade barricade and vertical panel from the original owner. This letter, WZ-326, acknowledges that these devices now belong to Plasticade, and they continue to be eligible for reimbursement under the Federal aid highway program.

**Summary and Standard Provisions**

Therefore, the system described and detailed in the attached form is eligible for reimbursement and may be installed under the range of conditions tested.

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

- This finding of eligibility does not cover other structural features of the systems, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may influence system conformance with NCHRP Report 350 criteria will require a new reimbursement eligibility letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals safety problems, or that the system is significantly different from the version that was crash tested, we reserve the right to modify or revoke this letter.
- You are expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You are expected to certify to potential users that the hardware furnished has the same chemistry, mechanical properties, and geometry as that submitted for review, and that it will meet the crash test and evaluation criteria of the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of eligibility is designated as number WZ-326 and shall not be reproduced except in full. This letter and the test documentation upon which it is based are public information. All such letters and documentation may be reviewed at our office upon request.
- This letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented system for which the applicant is not the patent
holder. The FHWA does not become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

- The Plasticade barricades and vertical panels are patented products and considered proprietary. If proprietary systems 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 the 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.

Sincerely yours,

[Signature]

Michael S. Griffith
Director, Office of Safety Technologies
Office of Safety

Enclosures
Mr. Henry A. Ross, Vice President
Sales and Marketing
WLI Industries, Inc.
880 North Addison Road
P.O. Box 7050
Villa Park, IL 60181-7050

Dear Mr. Ross:

Thank you for your letter of April 1, 1999, requesting Federal Highway Administration (FHWA) acceptance of your company’s “SafetyCade Extended Vertical Panel Barricade” as a crashworthy tragic control device for use in work zones on the National Highway System. Accompanying your letter was a copy of the crash test report by E-Tech Testing Services, Inc., and video documentation of the crash tests. You requested that we find the tested devices acceptable for use on the National Highway System.

FHWA guidance on crash testing of work zone tragic 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 were those lightweight devices which could be self-certified by the vendor, Category II devices were other lightweight devices which needed individual crash testing, Category III devices were barriers and other fixed or massive devices also needing crash testing, and Category IV devices were trailer mounted lighted signs, arrow panels, etc. The second guidance memorandum was issued on August 28, and is titled “INFORMATION: Crash Tested Work Zone Traffic Control Devices.” This recent memorandum lists devices that are acceptable under Categories I, II, and III.

The WLI "SafetyCade Extended Vertical Panel Barricade” is a plastic (high density polyethylene), collapsible, three-piece barricade system consisting of an upright panel and two legs. The design of the new extended panel SafetyCade is very similar to WLI’s previous SafetyCade which was qualified to NCHRP Report 350 by our letter WZ-1 dated 6-19-97. The new extended panel SafetyCade houses the entire warning light assembly in a special receptacle in the top of the barricade whereas the earlier design had a separate compartment for the warning light battery below bumper height. The test article was outfitted with the “ToughLite 2000 L.E.D. Warning Light” and two optional sand-filled ballast boots locked onto the barricade leg. The test article mass, including the warning light, was 14.1 kg. The two sand-filled boots had a mass of 11.4 kg each. The overall height is 1296 mm and is 419-mm wide.

Full-scale automobile testing was conducted on your company’s vertical panel. Two examples of the device were tested in tandem, one head-on and the next at 90 degrees, as called for in our guidance memorandum. The impact speed with the first device was 100.4 km/hr and 97.0 km/hr.
with the second. The velocity changes were 3.4 km/hr and 3.3 km/hr (both approximately 1 m/s, which is well within the 5 m/s maximum) after the successive impacts.

During the test there was no damage to the windshield, and only minor damage occurred to the test vehicle’s hood. There was no occupant compartment intrusion or deformation observed, nor did any test article debris show potential for penetrating the occupant compartment. The results of this testing met the FHWA requirements and, therefore, the SafetyCade Extended Vertical Panel Barricade is acceptable for use on the National Highway System under the range of conditions tested, when proposed by a state.

Our acceptance is limited to the crashworthiness characteristics of the device and does not cover its structural features, nor conformity with the Manual on Uniform Traffic Control Devices. Presumably, you will supply potential users with sufficient information on design and installation requirements to ensure proper performance. We anticipate that the States will require certification from WLI Industries that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that tested and submitted for acceptance. To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-15, shall not be reproduced except in full.

The SafetyCade is a patented product and is 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 for use on Federal-aid projects, except exempt, non-NHI'S projects, they: (a) 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 diiiitve 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, a copy of which is enclosed.

Sincerely yours,

Dwight A. Home
Director, Office of Highway Safety Infrastructure

Enclosure
On August 7, 2013, the Federal Bankruptcy Court entered a final order (copy attached) approving the purchase, by Plasticade, of the molds, trademarks, and patents related to the Safetycade Type II Barricade and the Safetycade Extended Vertical Panel Barricade, also referred to as the Verticade. These devices were originally manufactured by WLI Industries, Inc. In 1999, WLI became a subsidiary of the Highway Technologies Group of United Rentals, Inc., and, subsequently, Highway Technologies, Inc. became an independent entity. Plasticade has bought these assets from the bankruptcy estate of Highway Technologies.

On June 19, 1997 Acceptance Letter WZ-01 was issued by FHWA accepting the Safetycade Type II Barricade and the Safetycade Vertical Barricade as being crashworthy under NCHRP-350; subsequently, WZ-15 was issued for the Safetycade Extended Vertical Barricade. All models were accepted with lightweight warning lights.

We request that both WZ-01 and WZ-15 be reissued (maybe as WZ-01A and WZ-15A) to Plasticade as the new owner of these devices. The devices now being manufactured by Plasticade are identical in all aspects to the original products – the same molds are being utilized and the same Bills of Materials are being used.

I have attached a copy of each WZ letter and a copy of the final order of the bankruptcy court for your information.

Please let me know if you need any additional information.

Regards,

Henry A. Ross

Henry A. Ross
Director of Government Relations

847-583-4189 Direct
773-294-4942 Cell
7700 N. Austin Avenue
Skokie, IL 60077
www.plasticade.com
March 18, 1997

Refer to: HNG-14

Mr. Henry Ross
Vice President
WLI Industries, Inc.
880 North Addison Road
Villa Park, Illinois 60181-7050

Dear Mr. Ross:

This is in response to your February 11 letter to Mr. James Hatton requesting Federal Highway Administration's (FHWA) acceptance of your "SafetyCade" work zone barricade as acceptable for use on the National Highway System (NHS). Accompanying your letter was a copy of a report and a video on the crash testing conducted by E-Tech Testing Services, Inc. The "SafetyCade" barricades are plastic, collapsible, three-piece systems consisting of an upright panel and two legs. They are molded from high-density polyethylene plastic and can be equipped with an optional plastic molded light, a battery compartment mounted below bumper height, and retro-reflective sheeting. The "SafetyCade" can also be equipped with a sand-filled plastic boot for ballast to counteract wind gusts from traffic on high-speed highways. A patented spring-loaded mechanism enables the barricade to remain vertical until struck, and then lay flat on the pavement after impact. Drawings and specifications describing the barricades and all the optional features and batteries present when tested are enclosed.

Full-scale automobile testing was conducted on two styles of "SafetyCade" barricades to assess their crashworthiness according to the criteria in the National Cooperative Highway Research Program (NCHRP) Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Safety Features. Vertical (Model ISC-102VL) and Type II (Model ISC-154LI) barricades were impacted in separate tests conforming to the NCHRP Report 350 test designation 3-71 (820 C vehicle, 100 km/h speed, zero degree angle of impact.) Because the devices are free-standing and have a mass of less than 45 kg, measurement of occupant impact velocities and ride-down accelerations are not required. The primary purposes of testing devices of this nature are to assess the potential for occupant compartment intrusion and the test vehicle's post-impact trajectory.
In each test two barricades were struck. They were struck sequentially, the first being in the normal position and the second in a perpendicular orientation about 8 m downstream of the first. The tests were conducted on smooth, dry concrete pavement. A summary of the test results is presented in the table below.

<table>
<thead>
<tr>
<th>E-Tech Test Number</th>
<th>05-0916-001</th>
<th>05-0916-002</th>
</tr>
</thead>
<tbody>
<tr>
<td>SafetyCade Model</td>
<td>Vertical (Model ISC-102VL)</td>
<td>Type II (Model ISC-154LI)</td>
</tr>
<tr>
<td>Mass (with ballast)</td>
<td>36.25 kg</td>
<td>36.25 kg</td>
</tr>
<tr>
<td>Vehicle Mass</td>
<td>812 kg</td>
<td>812 kg</td>
</tr>
<tr>
<td>Impact Speed (N°)</td>
<td>102.0 kmh</td>
<td>102.00 kmh</td>
</tr>
<tr>
<td>Impact Speed (P°)</td>
<td>96.10 kmh</td>
<td>97.70 kmh</td>
</tr>
<tr>
<td>Velocity Change (N)</td>
<td>2.24 kmh (0.62 m/s)</td>
<td>2.09 kmh (0.58 m/s)</td>
</tr>
<tr>
<td>Velocity Change (P)</td>
<td>2.08 kmh (0.58 m/s)</td>
<td>1.89 kmh (0.53 m/s)</td>
</tr>
</tbody>
</table>

*N and P refer to the Normal and Perpendicular orientation of the barricade. Because two barricades (one N and one P) struck during the same test were separated longitudinally, the test vehicle slowed prior to striking the second barricade.

The barricades were destroyed during all four impacts. The majority of the vehicle damage was limited to the bumper and the hood. No parts of the test articles showed potential for penetrating the occupant compartment. The warning light and its support bracket broke from the top of the barricade in each impact causing no damage to the windshield in test 05-0916-001 and only a crack in the windshield in test 05-0916-002.

(The mass of the warning light, which is mounted on top of the barricade, was 0.4 kg. The batteries, which are located at the base of the barricade, were 1.25 kg.)

The severity index for the perpendicular impact in test 05-0916-001 was 2.3 kJ below the recommended minimum value of 291.6 kJ, but this was judged to be of no significant consequence in this test. As allowed in section 3.2.3.2 of the NCHRP Report 350, low speed testing was omitted because it was determined that the high speed test would be the more critical. Tests with the 2000P vehicle were not conducted because, from a study of the front profile of the pick-up truck and small car in relation to the geometry of the test articles, it was concluded that there was less potential for an element of one of the test articles penetrating the occupant compartment of the pick-up truck than the small car. We concur in these judgements.
Because the results of the full-scale testing met the FHWA velocity change and vehicle trajectory requirements, and they caused no passenger compartment intrusion, your company's Vertical and Type II "SafetyCade" barricades are acceptable for use in work zones on the NHS, within the range of conditions tested, when requested by a State. Our acceptance is limited to the breakaway characteristics of the barricades and does not cover their structural features, nor does it cover conformity of the barricades with the Manual on Uniform Traffic Control Devices. Presumably, you will supply potential users with sufficient information on design and installation requirements to ensure proper performance. We anticipate that the States will require certification from you that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as those used in the crash testing, and that they will meet the FHWA change in velocity requirements.

Because "SafetyCade" barricades are proprietary products, to be used in Federal-aid projects, except exempt, non-NHS projects, they: (a) 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, a copy of which is enclosed.

Sincerely yours,

Dwight A. Horne
Chief
Federal-Aid and Design Division

2 Enclosures

Geometric and Safety Design Group Acceptance Letter No. WZ-1
VERTICAL SAFETYCADE BARRICADE

*ALL DIMENSIONS ARE NOMINAL*

Drawing D-1 Vertical SafetyCade Barricade
TYPE II
SAFETYCADE BARRICADE

*ALL DIMENSIONS ARE NOMINAL.*

Drawing D-2 Type II SafetyCade Barricade
## SAFETYCADE®
### COLLAPSIBLE PLASTIC BARRICADE SPECIFICATIONS

**DIMENSIONS:**
(type: I, Type II, SHRPI Arrow, Vertical SafetyCade)

<table>
<thead>
<tr>
<th></th>
<th>Type I</th>
<th>Type II</th>
<th>Vertical SafetyCade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upright Panel</td>
<td>39&quot;</td>
<td>48&quot;</td>
<td>39&quot;</td>
</tr>
<tr>
<td>With Light</td>
<td>48&quot;</td>
<td>48&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upright Panel</td>
<td>28&quot;</td>
<td>16.5&quot;</td>
<td>23&quot;</td>
</tr>
<tr>
<td>Overall (includes detent bolts)</td>
<td>33&quot;</td>
<td>16.5&quot;</td>
<td>23&quot;</td>
</tr>
<tr>
<td><strong>Depth of Upright Panel</strong></td>
<td>3&quot;</td>
<td>3&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Length of Legs</strong></td>
<td>36&quot;</td>
<td>36&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>35 lbs.</td>
<td>31 lbs.</td>
<td>70 lbs.</td>
</tr>
<tr>
<td><strong>Length Stacked (with light)</strong></td>
<td>65&quot;</td>
<td>70&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**SHIPPING:**

<table>
<thead>
<tr>
<th></th>
<th>Type I</th>
<th>Type II</th>
<th>Vertical SafetyCade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skid Dimensions</td>
<td>65&quot;H x 65&quot;L x 36&quot;W (20 units per skid)</td>
<td>85&quot;H x 70&quot;L x 48&quot;W (40 units per skid)</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>740 lbs.</td>
<td>1280 lbs.</td>
<td></td>
</tr>
</tbody>
</table>

## SAFETYCADE BALLAST BOOT SPECIFICATIONS
(two per unit recommended when traffic speeds exceed 45 mph)

**DIMENSIONS:**

<table>
<thead>
<tr>
<th></th>
<th>With Sand</th>
<th>Without Sand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>3&quot;</td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>9&quot;</td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>22&quot;</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>23 lbs. (filled with sand)</td>
<td>2.25 lbs. (without sand)</td>
</tr>
</tbody>
</table>

**SHIPPING:**

<table>
<thead>
<tr>
<th></th>
<th>With Sand</th>
<th>Without Sand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>988 lbs.</td>
<td></td>
</tr>
<tr>
<td>Skid Dimensions</td>
<td>21&quot;H x 40&quot;L x 40&quot;W (Skid)</td>
<td>33&quot;H x 23&quot;L x 19&quot;W (Box)</td>
</tr>
</tbody>
</table>

*(All dimensions are nominal)*

Drawing D-3 SafetyCade Barricade Specifications
those materials must occur in the United States.
(2) The State has standard contract provisions that require the use of
domestic materials and products, including
189 steel materials, to the same or
greater extent as the provisions set forth in this section.
(3) The State elect to include alternate
bid provisions for foreign and do-
1891 mestic steel materials which comply
with the following requirements. Any
procedure for obtaining alternate bids
based on furnishing foreign steel ma-
1893 terials which is acceptable to the Di-
vision Administrator may be used.
The contract provisions must:
(i) require all bidders to submit a bid based on
furnishing domestic steel materials, and
(ii) clearly state that the contract will be awarded to the bidder who submits
the lowest total bid based on furnishing
domestic steel materials unless such total bid exceeds the lowest total bid based on furnishing foreign steel materials by more than 25 percent.
(4) When steel materials are used in a project, the requirements of this sec-
tion do not prevent a minimal use of
foreign steel materials, if the cost of such materials used does not exceed
one-tenth of one percent (0.1 percent)
of the total contract cost or $2,500, whichever is greater. For purposes of
this paragraph, the cost is that shown to
be the value of the steel products as
they are delivered to the project.
(6) A State may request a waiver of the provisions of this section; if
(1) the application of those provi-
sions would be inconsistent with the public interest; or
(2) steel materials/products are not
produced in the United States in suffi-
cient and reasonably available quanti-
ties which are of a satisfactory quality.
(3) A request for waivers, accom-
panied by supporting information, must
be submitted in writing to the Regional
Federal Highway Administrator (RFHWA) through the PHWA Divi-
sion Administrator. A request must be
submitted sufficiently in advance of the need for the waiver in order to
allow time for proper review and
action on the request. The RFHWA
will have approval authority on the re-
quest.

23 CFR Ch. 1 (4-1-93 Edition)

Federal Highway Administration, DOT

(3) Requests for waivers may be
made for specific projects, or for cer-
tain materials or products in specific
graphic areas, or for combinations of both, depending on the circum-
stances.
(4) The denial of the request by the
RFHWA may be appealed by the
State to the Federal Highway Admin-
istrator (Administrator), whose action on
the request shall be considered ad-
ministratively final.
(5) A request for a waiver which in-
volves nationwide public interest or
availability issues or more than one
PHWA region may be submitted by the
RFHWA to the Administrator for
action.
(6) A request for waiver and an
appeal from a denial of a request must
include facts and justification to sup-
port the granting of the waiver. The
PHWA, in response to a request or appeal
will be in writing and made available
to the public upon request. Any
request for a nationwide waiver and
PHWA's action on such a request may be
published in the Federal Register for
public comment.

(7) In determining whether the waiver
requests described in paragraph (c) of this section will be granted, the
PHWA will consider all appropriate
factors including, but not limited to,
cost, administrative burden, and delay
that would be imposed if the provision
were not waived.

(8) The State and Federal-aid contract
procedures may be used to assure compliance with the require-
ments of this section.

(9) U.S.C. 316, sec. 10 of Pub. L. 90-325, 90

§ 635.417

23 CFR Ch. 1 (4-1-93 Edition)

(1) Competitive bidding for equally suit-
able unbonded materials or:
(2) The State highway agency certifi-
cates either that such patented or pro-
prietary item is essential for synchro-
nization with existing highway facili-
ties, or that no equally suitable alter-
native exists.
(3) Such patented or proprietary item is used for research or for a di-
1869 namic type of construction on rela-
tively short sections of road for experi-
mental purposes.

(4) When there is available for pur-
chase more than one patented or
proprietary material, semifinished or
finished article or product that will
fulfill the requirements for an item of
work of a project and these available
material or products are judged to be of
satisfactory quality and equally ac-
cceptable on the basis of engineering
analysis and the anticipated prices for
the related items of work are esti-
mated to be approximately the same,
the PHWE for the project shall either
contain or include by reference the
specifications for such each material
or product that is considered acceptable
for incorporation in the work. If
the State highway agency wishes to
substitute some other acceptable ma-
terial or product for the material or
product designated by the successful
bidder or bid as the lowest alternate,
and the substitution results in an in-
crease in cost, there will not be Feder-
al aid participation in any increase in
costs.

(5) A State highway agency may re-
quire a specific material or product
when there are other acceptable mate-
rials and products, which specific choice is approved by the Division Ad-
ministrator as being in the public in-
terest. When the Division Administra-
tor's approval is not obtained, the
item will be nonparticipating unless bidding
procedures are used that establish the unit price of each acceptable alterna-
tive. In this case Federal-aid participa-
tion will be based on the lowest price
so established.

(6) Appendix A sets forth the
PHWA requirements regarding (1) the
specification of alternative types of
culvert pipes, and (2) the number and
types of such alternatives which must
be set forth in the specifications for
various types of drainage structures.

(7) Reference in specifications on
plans to single trade name materi-
als will not be approved on Federal-aid
contracts.

§ 635.418 Credit for produc-
ted materials.

(a) Materials produced by co-opet
labor may only be incorporated in a
Federal-aid highway construction
project if such materials have been
produced under conditions which are
in accordance with per cent, supervised release, or prohibi-
tion from a prison or prison

(b) Produced in a prison or penal
facility by the Federal-aid highway con-
struction project is not allowed to exceed the amount of
such materials produced in such facil-
ty for use in Federal-aid highway construc-
tion during the 12-month period
ending July 1, 1997.

(c) Qualified prison facility means
any prison facility in which convicts,
Mr. Henry A. Ross  
Director of Sales and Marketing  
United Rentals Highway Technologies  
880 North Addison Road  
Villa Park, IL 60181-7050  

Dear Mr. Ross:

Thank you for your letter of March 6 requesting Federal Highway Administration (FHWA) acceptance of your revised Safety Cade Type I and Type II barricade as a crashworthy traffic control device for use in work zones on the National Highway System (NHS). Accompanying your letter were drawings of the old and new designs. You requested that we find your company's revised Safety Cade barricade acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

We found the Type I and Type II Safety Cade barricades and vertical panels acceptable for use on June 19, 1997, with acceptance letter WZ-1. The modified Safety Cade Vertical Panel was found acceptable on June 30, 1999, in acceptance letter WZ-15. The modifications included a larger panel and the redesign of the warning light attachments. The lightweight warning lights with their batteries are now mounted in the top of the panel. Your specific request is for a new Type I and Type II Safety Cade barricade that uses the same light receptacle at the top of the barricade. The redesigned barricade has a mass of 15.4 kg (34 pounds) without the light or ballast. With the light the mass is 16.8 kg (37 pounds). Typically, approximately 10 kg (23 pounds) of sand are used to ballast the device.

Introduction and Testing  
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 were those lightweight devices which could be self-certified by the vendor. Category II devices were other lightweight devices which needed individual crash testing. Category III devices were barriers and other fixed or massive devices also needing crash testing, and Category IV devices were trailer mounted lighted signs, arrow panels, etc. 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.
"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 for use on Federal-aid projects, except exempt, non-NHS projects, they: (a) 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, a copy of which is enclosed.

Sincerely yours,

Frederick G. Wright, Jr.
Program Manager, Safety

Enclosure