Mr. Roger Wentz, ATSSA

U.S. Department
of Transportation
Federal Highway Administration

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

June 2, 2005

Refer to: HOTO-1

Mr. Borys Schafran
Sales & Marketing Manager
Road Marking and Casting Resins
Degussa Corporation
2 Turner Place
Piscataway, NJ 08855

Dear Mr. Schafran:

Thank you for your April 13 letter following up to our Manual on Uniform Traffic Control Devices (MUTCD) Official Interpretation number 3-174(I), "Continuous Line Segment Determination," issued in December 2004. Your letter indicates that you are exploring the possibility of commissioning a formal study regarding an appropriate eye height and viewing distance, as well as objective measures of "solidness," for consideration in determining what constitutes a continuous pavement marking line segment. You also asked for feedback on two specific comments from your internal discussions.

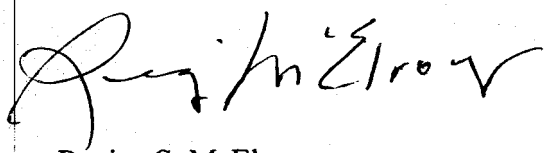
The first comment indicated that Section 3B.14 of the MUTCD provides for the use of non-retroreflective raised pavement markers (RPMs) in multiples, with a leading retroreflective marker, to delineate a skip (broken) line, and that these are not continuous marking segments. Your comment is correct. The use of ceramic "buttons" and other non-retroreflective RPMs to substitute for, rather than supplement, traditional pavement marking lines has been in use for a long time in some non-snowbelt States, due to the long life and thus lower overall costs versus painted markings. There was also a perceived advantage of serving as a "jiggle bar" along the lane line. The practice was accepted into the MUTCD with revision number 4 of the 1978 edition, with the requirement that at least one of the series of RPMs must be retroreflective. From low eye heights such RPM-based lines do appear fairly continuous at some distance down the road. However, it is not known what research, if any, was performed at that time to scientifically evaluate driver perception and understanding of such patterns of non-continuous RPMs as a substitute for a continuous line segment.

The second comment suggested that the 30 meter geometry used for measuring retroreflectivity might be appropriate as the vantage point for the driver's assessment of a marking as continuous or otherwise. Although the retroreflectivity measurement geometry does utilize the same 30 meter viewing distance used in the German methodology for assessing continuous markings, the entrance angle and observation angle are designed to simulate a driver's eye height in a common passenger car. While this eye height has been deemed appropriate for measuring markings retroreflectivity, it does not appear to be an appropriate vantage point for determining the appearance of a marking as continuous. This is recognized by the German specification requiring an eye height of a truck driver, assumed to be 2.2 meters above the road. However, the

average physical dimensions of truck fleets and drivers in the U.S. may be different from those in Europe. As stated in our December letter, verification of the German methodology is necessary, but using vehicles representative of the vehicles in the U.S. fleet, including trucks having the highest driver seating position, and using U.S. drivers.

We appreciate the opportunity to provide this further input and hope this information is helpful to you as you move forward in pursuing the suggested research.

Sincerely yours,



Regina S. McElroy
Director, Office of Transportation
Operations

cc: Mr. Roger Wentz, ATSSA