



U.S. Department  
of Transportation

**Federal Highway  
Administration**

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

December 9, 1999

Refer to: HMHS-CC50B

J. M. Essex, P.E.  
Senior Vice-President, Sales  
Energy Absorption Systems, Inc.  
One East Wacker Drive  
Chicago, Illinois 60601

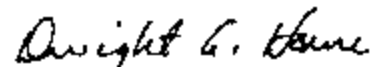
Dear Mr. Essex:

As a follow-up to the last paragraph in my November 12 letter, Messrs. Nicholas Artimovich and Richard Powers of my staff and Mr. Charles McDevitt met with Mr. Douglas Bernard on November 18 to view a videotape of three tests you ran at what we considered to be the critical impact point (CIP) on a proposed new product, a 4-foot wide REACT comprised of a contiguous double column of 2-foot diameter cylinders. The unsatisfactory results of these three tests led you to suspend sales of the Wide-REACT, a unit that uses a separated, double column of three-foot diameter cylinders. After having viewed the failed tests on the new design, it is not clear what design characteristic may have caused the tests to be unsuccessful. It is clear, however, that despite some general similarities, the new design is clearly stiffer than the original wide design. Thus, it is not immediately obvious that the Wide-REACT would not perform acceptably if struck at the corresponding location (i.e., with the front, impact-side wheel striking the anchor cable). A crash test at this presumed second CIP would show if there is a problem with the wide unit. In effect, you have concluded that my staff did not select the **only** CIP for the Wide-REACT when we requested additional testing prior to accepting the Wide-REACT as a test level 3 (TL-3) crash cushion. This is certainly a possibility. The NCHRP Report 350 suggests that the selection of a CIP be based on experience with similar designs, computer simulation, and judgement. The actual location (or locations) will differ depending on the design features of each device.

Based on the information you have shared with us so far, we do not believe that our previous acceptance of the Wide-REACT is invalid. However, since you have raised the issue, we are now changing that acceptance to *conditional*, pending the results of a test at the impact location you now believe to be critical, as noted above and discussed during the meeting with Mr. Bernard. Of course, it remains your prerogative to suspend sales of this design until the question is answered to your satisfaction.

In the interest of fostering the development and use of ever-safer roadside devices, I hope that you will share the results of your analysis of the problem seen with the 2-foot diameter cylinder array and especially your analysis of the performance of the Wide-REACT under similar impact conditions. This information will aid us in determining critical impact point locations in the future and ensure to the extent practicable that any devices accepted for use on the National Highway System will continue to perform acceptably under reasonably anticipated impact conditions.

Sincerely yours,

A handwritten signature in cursive script that reads "Dwight A. Home".

Dwight A. Home  
Director, Office of Highway Safety Infrastructure