



Statement of Paul F. Allmandinger

Vice President, Engineering Division
Motor Vehicle Manufacturers Association of the U.S. Inc.

at the National Highway Traffic Safety Administration
Public Meeting on Heavy Truck Safety Washington, D.C.

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VICE PRESIDENT, ENGINEERING DIVISION,
MOTOR VEHICLE MANUFACTURERS ASSOCIATION OF THE U.S., INC.
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Introduction

My name is Paul Allmendinger. I am Vice President and Director of the Engineering Division of the Motor Vehicle Manufacturers Association of the United States, Inc. The Engineering Division provides technical support for MVMA's motor truck manufacturers' programs.

MVMA truck committees and task groups include experts knowledgeable on almost every facet of truck research, development and manufacture. These experts can and have developed docket responses to many driver environment and truck safety issues as appropriate for the association. They represent a continuing resource to address emerging truck safety issues. They also are available to undertake specific demonstration and testing programs, and have done some in the past for the predecessor of NHTSA.

I will take this opportunity to highlight some of our recent positive and constructive efforts which have been addressed specifically to the matter of the truck drivers' environment and its relationship to safety.

Truck Ride Quality

Truck ride quality is an important element in the driver's environment. In May of this year, MVMA's panel of truck ride quality experts organized a demonstration program. The participants were: professional truck drivers, the Teamsters, government administrators and program managers, the press, trucking industry representatives, company executives and technical personnel. The purpose was to provide information to aid in the development of sound research programs on truck ride and orient participants to the significant efforts which manufacturers have undertaken to improve truck ride in recent years.

After technical presentations, a 567 mile ride experience involving 16 tractor/trailer combinations was undertaken. Comparisons of fifth-wheel location, front axle load, tractor configuration, tractor and trailer suspension, trailer loading, wheel base, and older and newer cab design were made. Evaluations of overall ride, vibration, noise, temperature, seat comfort and space were made.

Professional drivers' ratings were compared to trip participants. Some myths were dispelled and some truths confirmed. The complexity and the many variables affecting truck ride were confirmed. Subjective judgments varied. What was important

to one person was not important, or as important, to another. For the vehicles involved, participants generally were not able to distinguish any significant difference in different fifth wheel locations or from increasing front axle loads. Changing wheel base made little difference. Ratings which differed between cab configurations were influenced by factors beyond just vibration. A comparison of an older fleet tractor with 750,000 miles, equipped with rubber block suspension, with a new air suspended tractor, resulted in a substantial difference in overall ride quality ratings. This was due primarily to the difference in noise levels. A surprise finding, however, was the little difference in the perceived level of vibration between the two vehicles. The report of participant evaluations from the MVMA Truck Ride Quality Demonstration will be submitted for the record.

Truck ride quality and the planned Federal research program are of significant importance to truck manufacturers. Our position on this issue is one which emphasizes the importance of appropriate research and coordination between Federal contractors and managers and our truck ride quality panel of experts.

We support comprehensive research to: 1) determine whether ride vibration affects the driver's ability to perform his tasks; 2) identification of any health effects; and, 3) the role of highway and vehicle characteristics. We applaud the efforts

now beginning at NHTSA to examine the health and safety questions in a methodical fashion. The MVMA position on truck ride quality is attached to my written statement (Attachment I).

Independent of the findings of research relating to safety and health, manufacturers are producing trucks with numerous ride quality improvement features such as more comfortable seats, and better springs and suspension systems.

Overall Cab Comfort

In addition to improved ride, overall cab comfort in today's heavy duty trucks has markedly improved. Products available today bear evidence of the attention that manufacturers have given to overall comfort, vibration, noise, temperature, cab space and seat comfort. One need only examine today's products in comparison with older models to confirm this statement. Quantitative evidence was gathered at MVMA's Truck Ride Quality Demonstration when one manufacturer's newest cab was compared to the model it replaced. By every recorded measure, vibration, noise, temperature, seat comfort and elbow, head, and leg room, the newer unit was rated vastly superior. Of these factors, only interior cab noise is subject to government regulation.

Underride Accidents and the Role of Truck Conspicuity

A good example of how adequate research can lead to a better understanding of a truck safety problem is the case of car/truck underride accidents and the role of truck conspicuity. Some

time ago, MVMA initiated studies at the Highway Safety Research Institute and at Calspan to look into car into truck accidents, estimate the frequency and shed light on why they happen and what can be done to avoid them. Among other things, HSRI found there were an inordinate number of accidents at night in poorly lit areas and into trailers parked at the roadside or straddling two-lane highways and more than two-thirds of the impacts were at speeds greater than 30 mph. HSRI concluded that making the truck/trailer more easily recognized, or more conspicuous, could prevent many underride accidents and might be a better approach to the problem than merely improving the guard.

MVMA initiated discussions on this important finding with truck user groups which led to two forums on conspicuity in St. Paul. The first held last fall, brought together manufacturers, carriers, insurance companies, the National Safety Council and others, to exchange information and observe a field demonstration of how the use of reflective materials can enhance conspicuity. A second demonstration for government researchers was conducted in May. New safety research findings are confirming the potential of enhanced conspicuity as an accident avoidance measure.

NHTSA has initiated, we are happy to note, a full scale research program, including a field experiment on truck/trailer lighting and conspicuity. This is a logical approach and MVMA as well as ATA and the Western Highway Institute have expressed support for this research effort. We believe this kind of a

cooperative approach can lead to improved truck safety in a timely, efficient and effective way.

Driver Environment Rulemaking

MVMA has also responded constructively to recent Bureau of Motor Carrier Rulemaking on driver environment. Here are several specific examples of positive actions which have resulted:

Step Handhold and Deck Requirements

In response to rulemaking by the Bureau of Motor Carrier Safety, MVMA suggested an approach to establishing step handhold and deck requirements for safe entry and egress from cab-over engine tractors. Available anthropometric data were utilized to accommodate a wide range of sizes and weights of both male and female truck drivers. The method recommended would provide the driver three limb contact at all times when entering and exiting the cab and includes recommendations for back of cab access. We are pleased that the BMCS saw merit to this approach and chose to adopt it in recent final rulemaking on the matter.

Engine Fumes and Exhaust Systems (Toxic Gases)

MVMA also responded positively to questions raised in BMCS' advanced notice on the subject of toxic gases in heavy truck cabs. We recommended the existing rule be modified to specify

a level of carbon monoxide. We further recommended that if the carbon monoxide regulation were to change or if standards for any other contaminant, such as nitrogen dioxide, were established, voluntary consensus standards developed by the American Conference of Governmental Industrial Hygienists (ACGIH) be considered. Again, we are pleased that BMCS, in its June 18, 1979 notice of proposed rulemaking, has incorporated this approach.

Driver Space

MVMA has addressed the question of adequate space for the driver in response to both the Bureau of Motor Carrier Safety's advance notice of rulemaking on minimum cab space dimensions and in hearings before the Senate Commerce Committee. We recognize that adequate space to drive and to sleep are important aspects of overall comfort. Data are needed that objectively relate all factors of interior cab space with the real world performance capabilities of drivers, including a determination of whether any relationship exists between the interior size of a truck cab and accidents.

The hypothesis has been advanced that truck tractors have been shortened to maximize trailer lengths within overall truck limits to take advantage of the 80,000 lb. gross weight limit Congress legislated in 1974. This is not substantiated by the facts. The percentages of cab-over engine (COE) tractors (43%)

and conventional tractors (57%) did not change between 1972 and 1977. Some of today's cab-over-engine models are actually longer than some conventional models, both in terms of wheel base and bumper to back of cab dimension (BBC). New model COE cabs are longer and more spacious than models they replaced. Minimum BBC dimensions are increasing. International Harvester has increased its minimum COE cab length from 50 to 59 inches. Likewise General Motors Truck and Coach Division increased minimum BBC from 48 to 54 inches in 1969. Ford's new CL-9000 COE has significantly increased space for the driver with minimum BBC of 54 inches.

Recommendations

1. MVMA recommends close cooperation between Government, manufacturers, users, and drivers in the pre-rulemaking stages to define research needs and exchange results in an open dialogue.
2. We urge your support and participation in MVMA's annual motor truck research symposium.
3. We pledge our support for appropriate truck safety research and we will continue to develop constructive and positive responses to truck safety rulemaking.

9/7/79

MVMA POSITION ON THE ISSUE OF TRUCK RIDE QUALITY *

The current and planned Federal research program on Ride Quality of Commercial Vehicles and the Impact on Truck Driver Performance is of significant importance to motor truck manufacturers and will be monitored closely by MVMA. Continued cooperative activity between the MVMA Truck Ride Quality Panel and the Government's program managers and contractors will aid in insuring the development of technically sound information on truck ride.

MVMA emphasizes the importance of investigating human tolerances to truck vibration and safety related effects, if any, of truck vibrations. While opinions vary, allegations that poor ride contributes to highway accidents should be closely examined by the Government and truck manufacturers. Accordingly, MVMA encourages comprehensive research to determine:

- a) whether any content of ride quality may compromise a driver's ability to safely perform the driving task (i.e., whether any relationship exists between accidents and truck ride quality)
- b) if any driver health effects are the specific result of exposure to truck vibrations
- c) the relative contribution of highway condition and vehicle characteristics to any problem vibration.

Resolution of the above tasks will require extensive research. The determination of specific safety needs must logically precede Government efforts to change aspects of truck ride. With knowledge of the extent that ride affects driver and highway safety, both Government and truck manufacturers will be able to plan vehicle and/or highway improvement programs appropriate to the magnitude of any problem.

MVMA and member companies support cooperative Government/industry research to determine the extent that truck ride affects driver and highway safety. Independent of the findings of research relating to safety and health, manufacturers have developed and are producing trucks with numerous ride quality improvement features to provide customers with the products they desire.

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