

AMERICAN  
TRUCKING  
ASSOCIATIONS, INC.

1616 P Street, N.W., Washington, D. C. 20036

January 19, 1981

81-02-01  
TECHNICAL SERVICES DIVISION  
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The Honorable Douglas M. Costle  
Administrator  
U.S. Environmental Protection Agency  
401 "M" Street, SW  
Washington, D.C. 20460

Dear Mr. Costle:

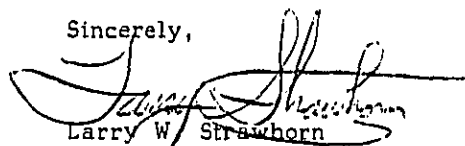
The Environmental Protection Agency (EPA) has adopted noise emission regulations for new medium and heavy trucks built on and after January 1, 1982 (40 C.F.R. 205). Several manufacturers have petitioned to have this rule either redone entirely or delayed. ATA supports the need to at least set back the effective date.

Representing the consumers who will purchase trucks meeting the 1982 noise limits, we are concerned about the increased new equipment prices (possibly as high as \$35-\$70 million yearly on an industry-wide basis), decreased productivity (due to loss of cargo capacity caused by higher base vehicle weights), and more difficult and costly maintenance they will cause. The adverse effects on maintenance will occur in large part because the 1982 effective date will not allow manufacturers time to design new quiet truck components. Instead shields will be used to mask noise in order to meet the standard. These covers, barriers, and enclosures will literally surround and wrap many components and thereby make their inspection and servicing very difficult.

New air pollution controls are slated to go into effect for truck engines in 1984. While those rules do not deal with noise, they will cause engine changes which will affect noise and thereby create a need to run a costly recertification program to assure the 1982 requirements are still being met. That makes the 1982 noise rules interim standards as the compliance work done to meet them will be outdated in 1984. As the consumer this exposes us the possibility of many different noise "fixes" in a short time which is sure to add to cost and also the complexity of both training mechanics and servicing trucks.

Because of the factors we have mentioned we believe the 1982 EPA regulation for noise from new trucks is onerous without comensurate benefit and believe it should be set aside. Therefore, we ask for consideration of our attached comments.

Sincerely,



Larry W. Strawhorn  
Director  
Engineering Department

LWS/acb

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BEFORE THE  
ENVIRONMENTAL PROTECTION AGENCY

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NOISE EMISSION CONTROLS REGULATIONS  
FOR MEDIUM AND HEAVY TRUCKS

40 C.F.R. PART 205

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COMMENTS OF AMERICAN TRUCKING ASSOCIATIONS, INC.  
IN SUPPORT OF PETITION FOR RECONSIDERATION  
OF SECTION 205.52(a),  
THE 1982 STANDARD

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AMERICAN TRUCKING ASSOCIATIONS, INC.

1616 P Street, N.W.  
Washington, D.C. 20036

Dated: January 9, 1981

The American Trucking Associations, Inc. (ATA), on behalf of the motor carrier industry--the ultimate consumers of the vehicles affected by the 1982 Noise Emission Standard--is involved in a variety of truck noise reduction programs. This work includes maintenance efforts aimed at meeting or surpassing the current regulations for in-service equipment and involvement in experimental studies like the Environmental Protection Agency's (EPA) Quiet Truck Program. While the industry supports the concept of quiet trucks, the experience gained in these activities leads ATA to conclude that the engine and vehicle manufacturers are fully justified in petitioning EPA either to defer the effective date of the 1982 new medium and heavy-duty truck noise standard of 80 db(A) or withdraw it completely. From our view as consumers, we do not believe implementation of such a standard in 1982 is in the best interests of those parties involved, or the general public, and therefore we support the petitions for reconsideration.

Motor truck manufacturers, representing over 70 percent of the domestic medium and heavy truck market, have voiced concerns not only for their cost of compliance, but the price increases they will be forced to pass on to truck purchasers. We, as those purchasers, are concerned about increased costs and the rate increases we may be forced to pass on, especially in these times of high interest rates. Furthermore, given the current regulatory framework and existing noise control technology, these

equipment builders have no choice in meeting the 1982 standards but to use methods of noise reduction which are unsatisfactory to them as well as motor carriers. ATA supports a deferred effective date for the new truck noise standards because of issues that individually and collectively lead to increased initial vehicle cost, as well as increased operating costs:

- (1) short-lived noise control designs.
- (2) decreased engine family availability.
- (3) restrictive test procedures.
- (4) increased use of engine and transmission noise enclosures.

#### DISCUSSION

Generally, the trucking industry acknowledges its responsibility to use quiet equipment and we realize that achievement of that objective may involve reasonable increased costs. In this case, however, the magnitude of the decrease in noise called for in the 80 db(A) noise standard, the inordinantly high costs associated with this standard, and the manner in which it will be implemented do not justify the 80 db standard in 1982.

Truck manufacturers have indicated to ATA, EPA, the Department of Transportation, the Office of Management and Budget, the Department of Commerce and others that the existing regulatory framework for new truck noise reduction will cause an inefficient utilization of their engineering and capital resources. This problem arises from the timing of the regulation, the nature of state of the art noise reduction techniques, and because truck noise levels are now at a point where it takes large increases in resource expenditures to achieve even a very

small benefit in community noise levels.\*

1. Short-lived Noise Control Designs

The spectre of short-lived noise control designs resulting from the timing of the regulations has been raised by the manufacturers. They believe the new, stringent gaseous and particulate emissions regulations which will go into effect for 1984-85 model year heavy-duty vehicles will require redesigned engines. Such changes will in turn alter engine noise characteristics thereby requiring completely new noise reduction configurations and testing to assure compliance with the 80 db(A) limit. Under the present regulations, new noise packages may be required in both 1982 and 1984, even though the noise level restrictions are the same.

Our experience confirms the validity of the manufacturers concerns. During the United Parcel Service Quiet Tractor Program,\*\* a change in the engine emission standards from the first generation "quiet" tractor to the second generation "quiet" tractor necessitated changes in timing, fueling and

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\*International Harvester, in its "Petition for Reconsideration, Title 40 Code of Federal Regulations, Chapter I, Part 205 Transport Equipment, Noise Emission Control," (November 19, 1980) demonstrated, via Battelle National Traffic Model Analysis, that the impact of the 1982 80 db(A) new truck noise standard on community noise levels would involve an expenditure of three billion dollars to obtain a 0.6 db(A) average daily exposure reduction for 4 percent of the population, twenty-six years from now. The implications of this finding to the trucking industry, if valid, are serious. No further discussion of a possible delay of the regulation is necessary--a complete withdrawal would be in order.

\*\*The full details of the UPS Quiet Tractor Program are reviewed in a series of papers presented at EPA Noise Contractors meetings on November 30, 1978 and May 28, 1980. Copies of these papers are available.

turbocharging to meet the lower requirements. As a result, the second generation vehicle, using the same noise control configuration, exhibited a 0.8 db(A) increase in pass-by noise level over that of the first generation vehicle. Obviously, a reduction of the noise level would have required redesigning the noise control configuration--precisely what would be required in 1984.

Short-term vehicle noise reduction configurations will adversely affect the manufacturers and the consumers. The trucking industry will feel these impacts in both increased purchase price and operating costs. At a minimum, different noise control packages used within two years will require (1) that mechanics must service many different noise reduction designs, thus, increasing maintenance time and, (2) a large and varied inventory of spare parts be maintained.

A delay of the effective date of the standard to coincide with the effective data of the 1984-85 emission standards, as some manufacturers have requested, would prevent most of this apparent inefficient use of industry resources.

## 2. Decreased Engine Family Availability

Truck companies use different vehicle combinations in varied applications, in all parts of the country in differing climates for a large difference in hours of service and vehicle life. Some examples of this are small engines, cabs and transmissions in urban areas, larger engines, cabs and transmissions for long-haul highway use, engine brakes in mountain areas, exhaust blowers and transmission power take-offs for bulk

shipment loading and unloading and many other applications. This diversity comes from the need to provide an extremely varied number of trucking services in the most efficient manner.

Consequently, engine and original equipment manufacturers must produce a vast number of product configurations to fill their customers' needs. Thus, General Motors produces seven truck models, one of which alone consists of eighty-five different noise reduction configurations derived from seven basic engine families, and three cab configurations, each having a number of intake and exhaust systems.\* To assure compliance with noise standards, each of these eighty-five configurations must be tested. Clearly, EPA should appreciate the time and cost burdens associated with such testing.

EPA's own continuing Quiet Truck Demonstration Project provides insight to the type of problems manufacturers are facing because of the 80 db(A) requirement for 1982. Although EPA's efforts have been geared to a level of 75 db(A), the Agency knows full well that in order to assure all trucks on the assembly line meet that prescribed level, a lower design criteria (at 72 db(A)) must be set. ATA, therefore, believes the manufacturers' assertion that a 75 db(A) level would be required to achieve an actual 80 db(A) standard. A contractor involved in EPA's project has been experiencing problems with one of the four truck-tractors it is quieting. Due to the specialized equipment required on that vehicle (a transmission power take-

\*Krey, F.W. U.P.S. Quiet Truck Program Update, GMC Truck and Coach Division, May 28, 1980.

off and exhaust blower to be used for unloading in bulk commodity transport) the contractor is months behind the original goal for bringing it to the desired decibel level. Further complicating the problem is a tonal vibration emanating from frame rails via the transmission through the transmission mounts. Modifications to the transmission mounts are expected to solve some of the problem. It is unclear at this time, however, whether this structurally-related problem is characteristic of that particular vehicle combination, is limited to random individual vehicles, or is associated with the individual manufacturer's truck line. EPA's own experience, therefore, demonstrates the magnitude of the problem that a diverse industry of consumers presents to manufacturers facing new noise level standards.

Given the state of the art for noise reduction that now exists, manufacturers may deal with their dilemma by cutting the number of variables that must be considered. A reduction in either engine or vehicle configuration availability represents a possible concomitant reduction in the variety and efficiency of services supplied by the motor carrier industry.

### 3. Restrictive Test Procedures

Current noise test procedures require outdoor testing, which may be conducted only during specified weather conditions, creating an increase in the required test time. The Motor Vehicle Manufacturers Association is developing an indoor test that would correlate to the outdoor procedure now in use. This all-weather test procedure will aid in reducing the time and cost involved in testing various vehicle configurations for



compliance with noise regulations. However, refinement of the new procedure will not be completed probably until April of 1981.\* The current implementation of the new truck noise standard will preclude use of the new test procedure to certify vehicles for 1982. Thus, the increased costs due to testing will not be relieved.

#### 4. Increased Use of Engine and Transmission Noise Enclosures

Inasmuch as the technology for building inherently quiet components has not reached a level where such equipment will be available in 1982, manufacturers must resort to covering and shielding to reduce truck noise. Use of such enclosures is undesirable for many reasons. Their primary technical fault is they are only a mask covering more basic problems. For example, it is generally recognized that for many truck components which contribute to overall sound power level (e.g. transmission, engine mechanical processes), noise is evidence of destructive wear. Thus, motor carriers would much prefer that manufacturers spend their time and effort reducing wear on components rather than worrying about absorbing noise caused by wear.

Here again the UPS study provides an excellent example illustrating our concern. During the second phase of that program, the reduction in sound power level achieved with a specially built "quiet" transmission (gear modifications were made) allowed the elimination of some troublesome transmission enclosures. The importance of this fact can be understood from

\*Letter of W.R. Semrau, Senior Project Engineer, Product Noise Control, General Motors Corporation, to Mr. James Lewis, Automotive Engineer, National Automotive Department, United Parcel Service, (October 8, 1980).

an incident that occurred during testing of a truck having a full set of such enclosures. A slight transmission oil leak, concealed by the noise panels, almost created a critical transmission failure. When the problem was detected, diagnosis of the hard-to-find leak was extremely difficult and time consuming because of the noise shielding. Instead of creating maintenance problems in the short-term, EPA should recognize that sometime after 1982 "quiet" transmissions should be generally available. Those transmissions can be used to meet the 80 db(A) restriction and there will be no need to shield them.

A reduction in vehicle preventive maintenance can be caused by any increase in the time and difficulty necessary for its performance. As a job gets longer and harder to perform, some mechanics may seek a shortcut by removing and not replacing noise panels, without the permission of motor carriers or even over their express orders not to take such action. In addition, many of the noise enclosures do prevent line-of-sight inspections, which are the foundation of a quick safety lane check employed by many carriers. The trucking industry recognizes the need for safe vehicles and is constantly striving to improve its safety record. ATA feels that such enclosures can only serve as a potential deterrent to important routine maintenance and therefore they should be avoided.

The challenge for EPA is to encourage the production of vehicles that are inherently quiet and efficient, while still avoiding solutions which merely hide the problem. Undesirable noise reduction designs (e.g., engine enclosures) will demand a

high level of in-use maintenance from carriers and cause increased effort by enforcement agencies to assure they are used properly. Since the motor carriers are responsible for meeting in-use noise standards, the use, misuse, and inspection concerns caused by panels become important factors ultimately affecting the efficient movement of the nation's goods and services.

SUMMARY

ATA believes that vehicle manufacturers have demonstrated that they will, in some way, be able to meet an 80 db(A) standard by 1982. In the interim, however, ATA is greatly concerned, from an operational view, with the method used to achieve that standard, the costs it causes to be passed on to the trucking industry consumers, as well as the quality, efficiency, durability, versatility and maintainability of the final product being manufactured. EPA must also clearly show that 80 db(A) by 1982 is necessary to have acceptable community noise levels. Furthermore, EPA must recognize the potential internal problem created by the 1984-85 emission standards which could force manufacturers to conduct two major noise reduction programs within two years (1982 & 1984).

The most economical way to cut back truck sound levels without reducing the versatility of the vehicle or the trucking industry is to engineer quiet and not cover up noise. Manufacturers need more time to fully realize the potential of noise reduction through mechanical redesign. Forcing an immediate imposition of palliative measures such as noise enclosures is counter-productive and cost-inefficient rulemaking. The engine,