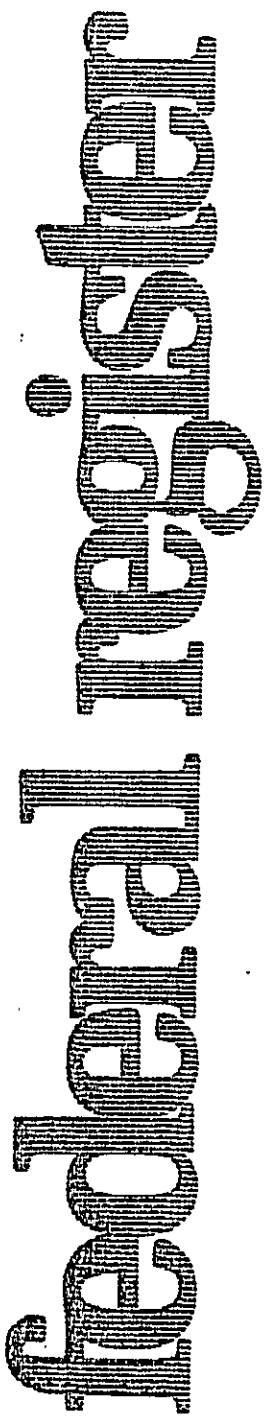
A-96-01
III-A-37



Wednesday
June 19, 1985

Part II

Environmental Protection Agency

40 CFR Parts 202 and 205
Motor Carriers Engaged In Interstate Commerce; Noise Standards and Transportation Equipment Noise Emission Controls; Medium and Heavy Trucks; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 202 and 205

[FRL 2816-4]

Motor Carriers Engaged in Interstate Commerce; Noise Standards and Transportation Equipment Noise Emission Controls; Medium and Heavy Trucks

AGENCY: Environmental Protection Agency.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Environmental Protection Agency (EPA) proposes to concurrently:

1. Defer the effective date of the 80 decibel (dB) noise standard for newly manufactured medium and heavy trucks (40 CFR Part 205, Subpart B) having a GVWR [1] greater than 10,000 lbs., from January 1, 1986 to January 1, 1988; and

2. Amend the noise emission regulation for motor carriers engaged in interstate commerce (40 CFR Part 202, Subpart B) to require 1988 and later model year vehicles, having a GVWR greater than 10,000 pounds, not to exceed a noise level of: 83 dB at speeds of 35 MPH or less; 87 dB at speeds above 35 MPH; and 85 dB when the truck engine is accelerated with the vehicle stationary.

These two closely related environmental actions are being proposed in response to petitions (Ref. 1) for a delay of the medium and heavy truck (MHT) 80 dB noise standard which were submitted by the International Harvester Company, the Ford Motor Company, the General Motors Corporation, and the American Trucking Association.

The petitioners requested additional time to permit the coordination of otherwise duplicative design, engineering and testing efforts necessary to comply with both the MHT 80 dB noise standard and EPA's nitrogen oxide (NO_x) and particulate emission standards for heavy-duty engines that were promulgated on March 15, 1985 (50 FR 10606).

The Administrator has concluded that the petitioners' request has economic merit and that the granting of a two-year deferral should significantly reduce duplicative design, engineering and testing, thereby producing economic benefits that should accrue to the public. However, such deferral will result in an attendant delay in health and welfare benefits to that segment of the nation's population that is regularly exposed to truck noise. To reduce the potential near term loss of benefits, due to the delayed entry into the fleet of the MHT 80 dB truck, the Administrator is concurrently proposing lower in-use noise emission levels for 1986 and later model year trucks operated by motor carriers engaged in interstate commerce.

The deferral of the MHT 80 dB noise standard should have only a minor adverse impact on near term (1986 through 1988) health and welfare benefits because of the concurrent amendment to the in-use noise emission standards.

The more stringent interstate motor carrier in-use noise emission standards should have a very beneficial effect on long-term health and welfare by significantly restricting the permitted increase (degradation) in the noise emission of 1986 and later model year quiet trucks.

The Administrator hereby gives notice that this proposed deferral of the MHT 80 dB standard is the last that will be considered.

DATE: The official docket for these concurrently proposed actions will remain open for the submission of comments until 4:30 p.m., July 19, 1985. At that time all materials submitted for the record will become part of the official record.

ADDRESS: Written comments should be submitted to: Assistant Administrator, Office of Air and Radiation (AR-443), Docket No. OPMO-0184, U.S. Environmental Protection Agency, Washington, D.C. 20460.

Persons wishing to review Docket No. OPMO-0184 and the information upon which the concurrently proposed actions are based, may do so between the hours of 8:00 a.m. and 4:00 p.m. at EPA's Public Information Reference Unit, Headquarters' Library, Room 2904, 401 M Street, SW., Washington, D.C. 20460. As provided in 40 CFR Part 2, a reasonable fee may be charged for copying services.

FOR FURTHER INFORMATION CONTACT: Mr. Kenneth E. Feith, Office of Air and Radiation (AR-471C), U.S. Environmental Protection Agency, Washington, D.C. 20460, Telephone: (703) 557-8540.

SUPPLEMENTARY INFORMATION:

I. Introduction

Through the Noise Control Act of 1972, 42 U.S.C. 4901 et seq. ("the Act"), Congress established a National Policy "to promote an environment for all Americans free from noise that jeopardizes their health or welfare." In pursuit of that policy, Congress stated in section 2(a)(3) of the Act, "that, while primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce, [the] control of which requires national uniformity of treatment."

Section 6 of the Act requires the Administrator to publish regulations for transportation equipment (among other products) which, in his judgment, are major sources of noise (pursuant to the criteria and requirements of section 5 of the Act) and for which, in his judgment, noise emission standards are feasible. The regulation (and any revisions thereof) shall include a noise emission standard(s) which set(s) limits on the noise emission that are requisite to protect the public health and welfare, taking into account the magnitude and conditions of use of the product (alone or in combination with other noise sources), the degree of noise reduction achievable through the application of best available technology, and the cost of compliance.

Section 18 of the Act requires the Administrator to publish noise emission regulations, including standards that set "limits on noise emissions resulting from operation of motor carriers engaged in interstate commerce, which reflect the degree of noise reduction achievable through application of the best available technology, taking into account the cost of compliance." These regulations are in addition to any regulations that may be published under section 6 of the Act.

Regulations issued pursuant to sections 6 and 18 preempt States and political subdivisions thereof from adopting or enforcing any law or regulation which sets a limit on noise emissions from products regulated EPA unless such law or regulation is identical to the Federal regulation.

II. Background

A. Medium and Heavy Truck Noise Emission Regulation

In April of 1976, EPA published (41 FR 15538) under section 6 of the Act, noise emission regulations (Ref. 2) for newly manufactured trucks having a GVWR over 10,000 lbs. The regulation set an 83 decibel (dB) noise emission level, under specified testing conditions, for trucks manufactured on or after January 1, 1978, and an 80 dB level effective January 1, 1982.

During the fall of 1980, the Administrator received petitions from the International Harvester Company and Mack Trucks, Incorporated, requesting that the 1982 MHT 80 dB standard be deferred for two or three

[1] GVWR—Gross Vehicle Weight Rating.

years or be rescinded because of the depressed economic condition of the trucking industry. The Agency found insufficient basis with respect to available technology and health and welfare impacts to justify a rescission of the MHT 80 dB standard. However, a deferral of one year (Ref. 3), from January 1, 1982 to January 1, 1983, was granted in January of 1981 (46 FR 6497) on the basis of the depressed economic condition of the trucking industry and the attendant reduction in truck sales during the 1979–1980 time period. The Administrator's intent in providing this deferral was to afford the industry an additional year for economic recovery and to ease the possible cash flow problems which several manufacturers claimed they would face during the latter part of 1981. EPA determined that the brief deferral would result in only a small adverse effect on the near-term health and welfare benefits expected from the MHT 80 dB standard. The 1981 deferral notice established a 90-day public comment period, after the fact, for the submission of new information that might dictate the need for further relief from the MHT 80 dB standard.

In February of 1981, the Agency received a request from the Vice President's Task Force on Regulatory Relief to review the MHT 80 dB truck standard. This action was triggered by requests to that task force from several truck manufacturers. On March 19, 1981, the Administrator solicited (46 FR 17558) public comment and technical data concerning possible withdrawal of the MHT 80 dB standard (Ref. 4). A substantial amount of data was collected by the Agency from truck manufacturers and other sources including the Department of Transportation's Bureau of Motor Carrier Safety (BMCS), relative to available technology, costs of compliance, possible economic effects, and potential impacts on public health and welfare. Several States and local governments opposed further delay of the MHT 80 dB standard. They argued that a deferral of the MHT 80 dB standard in the absence of lower "in-use" noise emission standards could have an adverse impact on public health and welfare.

The Administration determined that the one year deferral, granted in January of 1981, was inadequate in light of the continuing industry slump. The Agency's analysis suggested that cost savings might be realized by combining the design, engineering and testing needed to meet the MHT 80 dB noise standard with that required to achieve greater fuel efficiencies and in particular, to meet the more stringent EPA exhaust emission standards then anticipated for the 1986 and later model year heavy-duty trucks. On this basis a second deferral (Ref. 5) of the MHT 80 dB standard, from January 1, 1983, to January 1, 1986 was granted by the Administrator on February 8, 1982 (47 FR 7168).

The Administration also concluded that, in light of the extended deferral period and the comments and new information received during the public comment period, it was unnecessary to further consider rescission of the MHT 80 dB standard.

B. Motor Carriers Engaged in Interstate Commerce—Noise Emission Standards

On October 24, 1974, under section 18 of the Act, EPA published in-use noise emissions standards (Ref. 6) for motor carriers engaged in interstate commerce (39 FR 38208). The regulation is applicable only to vehicles of interstate motor carriers (IMC) having a GVWR in excess of 10,000 lbs.

The IMC noise emission standards specify not-to-exceed noise limits for each of three operating conditions. The operating conditions and their respective noise limits at a distance of 50 feet are:

- Low speed operation: passby speed limit of 35 MPH or less—86 dB.
- High speed operation: passby speed limit over 35 MPH—90 dB.
- Stationary: run-up test—88 dB.

Any one of more of these test procedures and a visual inspection of the exhaust system and tires may be used to determine non-compliance. On September 8, 1975 the U.S. Department of Transportation (DOT) issued a regulation (Ref. 7) that specified compliance test procedures (49 CFR Part 325) for the EPA regulation which is enforced by DOT's Bureau of Motor Carrier Safety (BMCS). The effective date of both regulations was October 15, 1975.

The purpose of the IMC regulation was two-fold. First, it served to establish nationally uniform limits on truck noise levels in place of diverse State and local noise laws and regulations. Second, it served as a precursor to Federal noise regulations under section 6 of the Act for newly manufactured medium an heavy trucks. The noise level standards specified in the IMC regulation were not intended to reduce the noise of the "typical" truck. Rather, they to "cap" the then existing fleet noise level and reduce the noise from those vehicles that were exceptionally noisy, e.g., trucks operating with a defective exhaust system, without a muffler, or with pocket retread tires (which are inherently noisy). The regulation basically required proper maintenance and/or tire replacement. The IMC noise standards were established on the basis of actual in-use truck noise level data obtained during the early 1970's. The data indicated that "exceptionally noisy" vehicles comprised between 20 and 25 percent of the medium and heavy truck fleet at that time.

In accordance with section 18 of the Act, it was the Agency's stated intention (Ref. 8) to revise downward the "in-use" noise levels as new, quieter trucks entered the nation's fleet as a result of new truck regulations under section 6 of the Act.

III. Discussion

A. Deferral of 80 dB Noise Emission Standard for Medium and Heavy Trucks

On September 28, 1983, the International Harvester Company (IH) submitted a petition to EPA requesting further reconsideration of the January 1, 1986 effective date for the MHT 80 dB standard for newly manufactured medium and heavy trucks. General Motors Corporation (GM) submitted a similar petition on September 30, followed by petitions from the Ford Motor Company (Ford) on December 15 and the American Trucking Association on January 9, 1984. The petitioners requested that the effective date be delayed on coincide with or follow the effective date(s) of EPA's anticipated new heavy-duty truck emission standards for oxides of nitrogen (NO_x) and particulates.

The petitions centered on the delay in the issuance of exhaust emission standards that were previously anticipated for the 1986 truck model year. Because the Agency had, in part, based its previous (February 1982) deferral of the MHT 80 dB standard on its anticipated 1986 model year truck exhaust emission standards, the petitioners argued that the Agency should again postpone the noise standard to coincide with or follow the effective date of the new exhaust standards.

While one petitioner continued to cite depressed sales, relative to the industries' 1978 peak sales year, as a major basis for further deferral, the significant rebound in truck sales in 1983 and 1984 caused the other petitioners to shift the focus of their argument in support of their request. The manufacturers conceded their ability to meet the MHT 80 dB standard in 1986, but pointed to potential technological changes to engines and exhaust systems that might be required to meet EPA's

revised exhaust standards and the potential effect of such changes on the noise characteristics of the vehicle. More particularly, the petitioners expressed concern that the design, engineering, testing and noise suppression work that is necessary to bring new trucks into compliance with the 1986 MHT 80 dB noise standard may be negated within one or two model years due to potential changes in engine and/or exhaust system design and operation that might be dictated by new exhaust emission standards.

On October 15, 1984, EPA proposed short- and long-term NO_x and particulate emission standards for heavy-duty engines (49 FR 40258). Subsequently, Ford submitted to the Agency a detailed listing of technological changes it believed were necessary for Ford to meet the proposed short-term exhaust emission standards. Ford claimed that the design, engineering and testing requirements necessary to meet the short-term standards are comparable to those for the more stringent exhaust standards. Ford contended that a two-year deferral of the MHT 80 dB noise standard from January 1, 1986, to January 1, 1988, would allow them to adequately coordinate activities, thus avoiding duplication of work and costs. GM had initially requested a two-year deferral but did not provide additional formal comment on the potential impact of the short-term exhaust standards on their design, engineering and testing for the MHT 80 dB standard. IH initially submitted technical data indicating a need for redesign, engineering and testing of several truck models in order to meet the proposed short-term exhaust standards. IH had requested a minimum deferral of two years with a preference for deferral until one year after the effective date of the final exhaust emission standards.

On March 15, 1985, EPA published new exhaust emission standards (50 FR 10606) which established short-term NO_x and particulate levels for 1988 and later model year heavy-duty trucks, and more stringent levels for 1991 and later model year vehicles (Ref. 8).

1. Technological Considerations For Deferral

In response (Ref. 9) to Agency inquiries (Ref. 10) Ford, IH, and GM each provided EPA their technical assessment of design changes necessary to meet anticipated new exhaust standards, listing the potential noise emission consequences. These changes include (a) retarded injector timing, (b) lower air temperature (charge air temperature), (c) higher compression ratio, (d) higher compression pressures, (e) electronic fuel systems, (f) electronic governor, (g) injectors, (h) pistons, and (i) high efficiency turbochargers. Table I delineates those specific design changes having potential vehicle noise effects based on both EPA (Ref. II) and industry engineering judgment and limited hardware testing by several manufacturers.

TABLE I.—POSSIBLE INFLUENCE OF EXHAUST EMISSION CONTROLS ON TRUCK NOISE EMISSION

Potential changes for exhaust emission control	Potential effects on noise
Emission control strategies to meet 6.0 g/BHP-hr[1] NO_x standard include optimization of ignition timing, EGR[2] rates and air/fuel ratio calibration.	Changes to EGR supply may require exhaust system revisions. *Effect on noise is dependent on final designs and requires retesting for noise.*
Non-catalyst engines may require increased air injection and thermactor, as well as vehicle chassis modifications.	Increased air injection and thermactor modifications may require re-engineering of the exhaust and air intake system. *Effect on noise is dependent on final designs and requires retesting for noise.*
Absent more stringent emission standards, the application of turbocharging, aftercooling and electronic engine controls would increase.	Turbocharging *generally reduces noise*, aftercooling generally *increases noise*, electronic controls can do either. *Noise testing/evaluation is required.*
Injection timing retard reduces NO_x and increases particulate emissions.	Injection timing retard reduces engine noise *and would necessitate re-engineering of noise hardware and retesting.*
Fuel injection nozzles and combustion chamber modifications are being investigated to reduce particulate emissions.	Combustion chamber modifications will change the noise characteristics of the engine. *Noise testing/evaluation is required.*
Full optimization of fuel control will require electronics.	Fuel injection timing changes can increase or reduce engine noise. *The possibility would necessitate re-engineering of noise hardware and retesting.*
Detroit Diesel, IH, and Caterpillar will use some combination of variable injection timing, limited use of electronic injection controls and some combustion controls and some combustion chamber modifications techniques to achieve NO_x and particulate compliance—the degree of modification will vary among engines/manufacturers.	The combination of these changes will affect noise emissions. *The direction and magnitude of that effect is unknown and requires reevaluation and testing.*

[1] g/BHP-hr: gram per brake horsepower hour.
[2] EGR: Exhaust Gas Recirculation.

2. Potential Economic Impact of Deferral

The petitioners have supplied the Agency with limited cost, sales and other economic data in response to specific questions posed to them by EPA. These new data were evaluated in light of economic data previously developed by the Agency during its consideration of previous requests for deferral of the MHT 80 dB standard (46 FR 8497 and 47 FR 7168). Key factors in EPA's assessment of potential cost savings and economic effects of a two-year deferral include:

(1) The effective date of the new exhaust emission standards in relation to that of the noise standard. Cost savings are possible if the design, engineering and testing for both regulations are combined or closely coordinated.

(2) The effect a two-year deferral will have on manufacturers' opportunity costs.

(3) The potential savings to ultimate purchasers resulting from the deferral of additional "pass-through" costs attendant to the MHT 80 dB truck.

(4) The deferral of potential lost sales due to a price increase associated with the MHT 80 db truck.

The cost and economic data presented by the industry as well as other information immediately available to EPA, generally supports the industry's claim of cost efficiencies through the combination of design, engineering and testing attendant to both the MHT 80 dB noise and exhaust emission standards.

The data suggests the following savings or conditions for each of the above factors:

(1) The truck manufacturing industry may realize, between 1986 and 1988, a cost saving of approximately $10 million by combining and coordinating the design, engineering and testing attendant to the MHT 80 dB noise and new exhaust emission standards.

(2) A two-year deferral of the MHT 80 dB noise standard could result in an estimated $5 million saving in opportunity costs.

(3) Potential cost savings to ultimate purchasers, resulting from a two-year delay of the MHT 80 dB standard, are estimated at $139.5 million. This assumes total truck sales of 500,000 between 1986 and 1988 and a potential cost differential of $279 between the MHT 80 dB and the current MHT 83 dB truck.

(4) The elasticity of demand in the truck industry has remained relatively constant at 0.1 over the years. We have no reason to believe that a deferral of the MHT 80 dB standard would produce a significant change in demand elasticity.

3. Health and Welfare Impact of Deferral

The petitioners contend that a large percentage of trucks entering the fleet since 1978 are already at or below the

MHT 80 dB level, thus suggesting that further deferral of the MHT 80 dB standard would have little adverse impact on the public's health and welfare. The Agency believes this contention is valid only if the noise emitted from these trucks does not degrade (increase significantly in-use.

The Agency's 1981 conclusion that a three year deferral from 1983 to 1980 would not have a significant adverse impact on public health and welfare was based on the fact that many post-1977 trucks were entering the fleet with noise levels less than 80 dB. The Agency did not anticipate significant fleet noise degradation prior to 1988 (7 years following entry of the first MHT 83 dB trucks). This conclusion was based, in part, on the assumption that first owners generally keep a vehicle approximately 7 years or through its first major overhaul, performing most manufacturer-recommended maintenance to meet warranty requirements. However, the Agency believes that by 1988 the noise levels of these early model trucks will begin to degrade as a result of changing use patterns and reduced maintenance by second and beyond owners.

In the absence of either an MHT 80dB replacement truck or lower in-use noise emission standards, the Agency expects a significant loss of short-term health and welfare benefits. The potential for increased impact from traffic noise is significant, particularly in urban areas where severe noise exposure already exists and where the potential increase in exposed population is the greatest. The proposed two-year deferral on the MHT 80 dB standard is expected to result in an attendant delay of benefits, beyond 1988, to approximately 5.0 million persons who are regularly exposed to truck noise (Ref. 12) unless in-use IMC standards are lowered.

B. Revision Of Motor Carrier Noise Emission Standards

The noise emission standards established in 1975 for interstate motor carriers (IMC) were necessarily restricted because of the wide age range (new to greater than 15 years) of trucks in the 1975 fleet. The noise standards were initially determined on the basis of the actual distribution of truck noise levels in the early 1970's. As noted above, the IMC regulation was intended primarily to control the noise from those vehicles that were exceptionally noisy—e.g., trucks operating with defective exhaust systems, without a muffler, or with excessively noisy tires. The IMC standards effectively placed a "cap" on the 1976 truck fleet noise level by requiring operators of exceptionally noisy trucks to correct the causes and bring their trucks into conformance with the rest of the fleet. In addition, the regulation provided an incentive for all operators to sustain the noise control performance of their vehicles through proper maintenance.

While the IMC regulation served to reduce the number of especially noisy vehicles in the truck fleet, it did not require retrofit to incorporate new noise control technology. Consequently, the average noise level of the fleet could not decrease below the average for properly maintained pre-1978 vehicles. The MHT regulation, on the other hand, prescribed lower noise limits for newly manufactured trucks that required application of best available noise control technology. More effective exhaust and muffler systems, quieter air intake systems, and limited engine shielding were the principal methods used to reduce new truck noise. The intent was to permit only "quieted" trucks to enter the fleet. Thus, over a period of time, if the lower noise levels of the MHT vehicles were sustained, the average noise level of the fleet would decrease as quieted trucks comprised more and more of the fleet.

1. Truck Fleet Noise Levels

The IMC and MHT regulations together have led to a substantial decrease in truck noise over the past decade. Other factors that also contributed to this noise reduction include the introduction of the 55 mph speed limit, which served to reduce high-speed tire noise (the principal contributor to truck noise at speeds above 35 mph), and the increased emphasis on fuel economy which resulted in the widespread use of low-rpm engines, turbocharged engines, and ribbed-tread radial tires.

There is extensive data on the current levels and distribution of truck noise. The Bureau of Motor Carrier Safety (BMCS) has recorded in excess of 53,000 measurements of in-use truck noise levels (Ref. 13). Data on the noise emissions of newly manufactured trucks were provided to EPA by truck manufacturers in accordance with previous Production Verification (PV) Report provisions of the MHT regulation (Ref. 14). The provisions required manufacturers to report noise levels of their noisiest (worst case) truck configuration.[3] EPA surveillance activities attendant to the MHT regulation from 1978 through 1981 generated substantial low-speed and stationary test noise level data for new trucks.

Figure 1 shows the substantial decrease in the fleet average high-speed (over 35 mph) truck noise level that has occurred since 1972. A similar reduction has been realized at low speeds (35 mph and below).

[3] "Configuration" is defined in 40 CFR 205.5(a)(6) as "the basic classification unit of a manufacturer's product line [which] . . . is comprised of all vehicle designs, models or series which are identical in material aspects with respect to [specified] parameters . . . ."

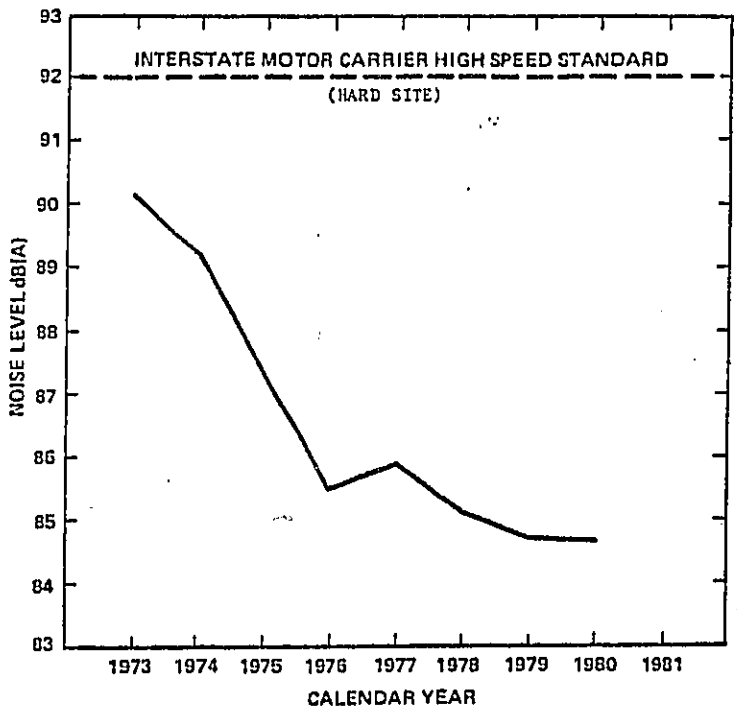


FIGURE 1. AVERAGE IN-USE TRUCK NOISE LEVELS: HIGH SPEED OPERATION, 1973-1981.

Table 1 summarizes the average noise levels, in dB, observed for the pre-1978 and post-1977 medium and heavy truck fleets. The amount of noise reduction is determined by comparing the noise levels in various time frames.

Table 1

Operating regime	IMC standard		Truck fleet (hard site)		MHT regulation trucks (hard site) 1978-81 (13 and 14)
	Hard site[1]	Soft site	1972-74 (13)	1980-81 (14)	
High speed	[1]92	[1]90	89.5	84.7	83.4
Low speed	[1]86	[1]85	86.7	N/A	80.6
Stationary	[1]83	86	86.2	79.9	79.2

[1]BMCS standard 49 CFR Part 325—does not include 2 dB measurement tolerance.
[2]EPA standard 40 CFR Part 202, Subpart B.

It is apparent that the average fleet noise levels shown in Table 1 are substantially below the existing IMC standards. The difference in average noise level between the fleet in the 1972-74 time frame and the MHT-regulated trucks in the 1978-81 time frame exceeds 6 dB for both high speed and stationary test conditions. Manufacturers' PV reports from 1978 to 1981 showed that the average noise emission level of the "noisiest configuration" of newly manufactured trucks was 80.6 dB. This average level compares very well with data submitted by the petitioners in 1984 in response to an EPA request. This represents a noise reduction of about 7 dB from pre-1972 new truck levels. More importantly, it represents a 3 dB reduction from the noise emissions of trucks that were manufactured between 1974 and 1978 and which complied with the IMC 86 dB (88 hard site) standard.

Based on the most recent BMCS test data (1980-81), approximately 97 percent of the trucks measured, including pre-1978 vehicles, were in compliance with the IMC stationary test standard, and 94 percent were in compliance with its high speed standard. As a result of this high level of compliance with an admittedly outdated IMC standard, the BMCS no longer maintains an active enforcement program.

The effects of the MHT regulation are only beginning to be seen in the in-use average noise level because an estimated 30 percent of the trucks in today's fleet still are of pre-1978 manufacture; the typical useful lifespan of a medium or heavy truck is about 15 years. As the MHT 83 dB trucks begin to age, their noise levels may increase in the absence of continued proper maintenance. The present IMC high-speed noise standard of 92 dB, plus the 2 dB measurement tolerance permitted by the BMCS (49 CFR Part 325), and the IMC low-speed hard site noise standard of 88 dB (comparable to the MHT 83 dB standard) plus the 2 dB tolerance, allows—indeed arguably encourages—substantial degradation (increase) of in-use noise levels for the present fleet. In the absence of more stringent IMC standards, the fleet noise level will rise above that which would otherwise be afforded by the MHT 83 dB truck.

2. Proposed Revision of the IMC Standard and Projected Compliance

The original low-speed IMC standard was primarily developed to address drive train noise, e.g., the engine, transmission, and exhaust system. The MHT regulation has significantly reduced drive train noise. The 4 dB difference between the IMC low-speed and high-speed noise limits was to account for tire noise at higher speeds (above 35 mph). That differential was to eliminate excessively noisy tire designs. The stationary test was included in the IMC regulation in order to facilitate measurements at truck weighing stations.

There were two underlying principles upon which the IMC levels were originally selected:

- The levels were based on the actual noise level of the truck fleet.

• The levels were designed to reduce the noise of the very noisiest truck, as opposed to that of the average truck.

These principles have been applied in the development of the proposed reduced noise levels presented in Table 2, which better reflect present noise control technology and fleet noise levels. The proposed levels of the IMC standards would be applicable to 1986 and later model year vehicles. While the proposed standards represent a 50 percent decrease in sound power which is equivalent, in terms of noise, to reducing the number of trucks in the fleet by 50 percent, they are consistent with the levels of the average present-day truck.

TABLE 2.—PROPOSED IN-USE (IMC) NOISE EMISSION STANDARDS FOR 1986 AND LATER MODEL YEAR VEHICLES

Operating regime	Noise level (dB)	
	Present	Proposed
High speed	[1] 90	[1] 87
Low speed	[1] 86	[1] 83
Stationary test	[2] 99	[2] 95

[1] Soft site.
[2] Hard site.

Table 3 presents the percentage of trucks that EMCS data indicate are at or below specific high-speed, low-speed and stationary test noise levels.

TABLE 3.—PERCENTAGE OF TRUCKS AT OR BELOW NOISE LEVELS IN IMC TEST MODES

Level (dB)	High speed (percent)	Low speed (percent)	Stationary (percent)
80	26	100	83
81	49	89	78
82	62	94	85
83	74	96	90
84	84	99	94
85	91		96
86	95		98
87	98		99
88			
90			

These data indicate that 98 percent of the present truck fleet could comply with the proposed IMC high-speed noise level of 87 dB without the need for retrofit. Similarly, approximately 98 percent of the MHT fleet are already in compliance with the proposed IMC low-speed noise level of 83 dB and an estimated 96 percent could comply with the proposed stationary test level of 95 dB.

3. Cost of Compliance

The proposed revision of the IMC noise standards would apply only to 1986 and later model year vehicles. Thus, the more stringent standards would not impose new costs on present motor carriers. Further, 1986 and 1987 model year trucks that have a GVWR greater than 10,000 lbs. already must comply with the MHT 83 dB standard. Other than normal maintenance costs dictated by manufacturers' warranties, no additional costs would be imposed on ultimate purchasers of these vehicles as a result of the revised IMC standards. Trucks manufactured after January 1, 1986, will have to comply with the not-to-exceed MHT 80 dB standard. The Agency would not expect the revised IMC standards to impose on owners more than the ordinary costs of proper maintenance which have already been included and accounted for in the cost-effectiveness analysis of the MHT 80 dB regulation.

In consideration of the costs and potential benefits associated with the MHT and IMC regulations, it appears that if the proposed revisions of the IMC noise standards are not effected, there is a significant risk of losing those health and welfare benefits already attained as a result of the MHT 83 dB standard. Such loss of benefits, resulting from poor maintenance of these "quiet" vehicles, can serve to significantly increase the apparent cost per unit of public benefit from the MHT standard.

The Agency determined that defective mufflers are the major cause of truck noise degradation. On the average, medium and heavy truck mufflers are replaced three times in eight years. The average difference in list price between pre-MHT 83 dB mufflers and the MHT mufflers for diesel-powered trucks is estimated at $62.46. Therefore, the annual cost of muffler maintenance is estimated to be $23.42 for 1986 and later model diesel-powered trucks. Mufflers for gasoline-powered vehicles are less expensive and annual muffler maintenance cost is estimated to be $13.50 for 1986 and later model vehicles.

These estimated annual costs have been weighted by the market shares of diesel and gasoline-powered trucks to obtain an average cost per truck, based on a ⅓-⅔ market share split between gasoline and diesel-powered trucks respectively. The amortized cost of muffler replacement in terms of cost per mile is estimated at $0.000234 per mile for diesel engine vehicles (assuming 100,000 miles per year) and $0.00027 per mile for gasoline-powered vehicles (assuming 50,000 miles per year).

4. Health and Welfare Considerations

The Agency estimates that by the year 2000, about 158 million people would be exposed to day-night average noise levels (Ld_n) above 55 decibels [4] in the absence of the MHT 83 dB truck standard. The MHT 83 dB standard is expected to reduce by about 22 million the number of people exposed by the year 2000. Much, if not all, of this reduction in noise impact could be lost if in-use noise emission standards are not sufficiently stringent to encourage continued proper maintenance.

In addition, a primary concern in the granting of a two-year deferral of the MHT 80 dB noise emission standard is the potential near-term loss of benefits and the delay of benefits in the out years.

The petitioners, in support of their request for deferral of the MHT 80 dB standard, point to the reduced in-use noise levels of trucks that have been built to comply with the MHT 83 dB standard. They claim these vehicles are entering the fleet with noise levels ranging from 77 to 82 dB. They argue that an additional deferral "would not impose an undue risk to the public's health and welfare." This conclusion presumes that the vehicles will maintain their noise level integrity with use. The Agency believes that for this to be assured, the IMC in-use noise emission standards for 1986 and later model year vehicles must be commensurate with the present fleet noise level. By keeping the fleet noise level degradation to a minimum, it is believed that the delay of benefits attendant to the MHT 80 dB standard can be reduced. In consideration of this fact, all of the petitioners have stated their support for more stringent IMC noise emission standards.

IV. Conclusion

The Administrator has concluded that the proposed deferral of the MHT 80 dB noise emission standard is in the public interest and should result in cost savings to both truck manufacturers and the public. He has further concluded that such deferral must be accompanied by actions to minimize any potential loss of health and welfare benefits to the public.

Accordingly, the Administrator is proposing to defer the effective date of the MHT 80 dB noise emission standard from January 1, 1986 to January 1, 1988 and concurrently to make more stringent the IMC noise standards for 1986 and later model year vehicles. The Administrator believes that this latter action should mitigate the potential near-term delay of health and welfare benefits arising from the deferral of the MHT 80 dB noise standard. Further, and more importantly, the proposed IMC standards should provide long-term health and welfare benefits that far

[4] Ld_n 55 is the level determined requisite to protect public health and welfare with an adequate margin of safety.

outweigh their near-term utility by requiring continuance of proper maintenance to ensure vehicle noise control integrity.

V. Administrative Designation

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. These two concurrent actions are not judged "major" because they do not impose significant new costs. All costs of technology and maintenance for the post 1985 model year trucks affected by this regulation are already largely reflected in the costs attendant to the existing medium and heavy truck regulation. Additionally, they are not judged major because:

(1) They will not have an annual adverse effect on the economy of $100 million or more;

(2) They will not cause a major increase in costs or prices to consumers, individual industries, Federal, State or local government agencies or geographic regions; and

(3) They will not cause significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States enterprises to compete with foreign enterprises in domestic or export markets.

For the same reasons, under the provisions of the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, I hereby certify that these two proposed actions will not have a significant economic impact on a substantial number of small entities.

The proposed actions have been submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291. Any OMB comments on the two proposed rulemaking actions and any EPA responses thereto will be placed in docket number OPMO-0184.

VI. Statutory Authority

These proposed regulatory actions have been prepared under the authority of sections 6(c)(3) and 13(a)(12) of the Noise Control Act, 42 U.S.C. 4917 *et seq.*

VII. List of Subjects

40 CFR Part 202

Motor carrier, noise control.

40 CFR Part 205

Labeling, Motor vehicles, Noise control, Reporting and record-keeping requirements.

Dated: May 16, 1985.

Lee M. Thomas,

Administrator.

For reasons set forth in the preamble, the noise emission rules for interstate motor carrier operations at 40 CFR Part 202, Subpart A, are amended as follows:

1. The authority citations for Parts 202 and 205 continue to read as follows:

Authority: 42 U.S.C. 4905.

PART 202—MOTOR CARRIERS ENGAGED IN INTERSTATE COMMERCE

§ 202.11 [Amended]

2. Section 202.11 is amended by adding at the end thereof a new sentence: "The provisions of § 202.20(b) of Subpart B shall become effective October 15, 1985."

§ 202.12 [Amended]

3. Section 202.12 is amended by adding a paragraph (f) that reads:

* * * * *

(f) The provisions of § 202.20(a) of Subpart B apply only to motor vehicles manufactured prior to the 1986 model year.

4. Section 202.12 is amended by adding a paragraph (g) that reads:

* * * * *

(g) The provisions of Subpart B, § 202.20(b) apply to all motor vehicles manufactured during or after the 1986 model year.

For reasons set forth in the preamble, the noise emission rules for interstate motor carrier operations at 40 CFR Part 202, Subpart B, are amended as follows:

§ 202.20 [Amended]

1. Section 202.20 is amended by adding "(a)" before the first paragraph beginning with the words "No motor carrier . . . ."

2. Section 202.20 is amended by adding a new paragraph (b) as follows:

* * * * *

(b) No motor carrier subject to these regulations shall operate any motor vehicle of a type to which this regulation is applicable which at any time or under any condition of highway travel, load, acceleration or deceleration generates a sound level in excess of 83 dB(A) measured on an open site with fast meter response at 50 feet from the centerline of lane of travel on highways with speed limits of 35 MPH or less; or 87 dB(A) measured on an open site with fast meter response at 50 feet from the centerline of lane of travel on highways with speed limits of more than 35 MPH.

§ 202.21 [Amended]

3. Section 202.21 is amended by adding "(a)" before the first paragraph beginning with the words "No motor carrier . . . ."

4. Section 202.21 is amended by adding a new paragraph (b) as follows:

* * * * *

(b) No motor carrier subject to these regulations shall operate any motor vehicle of a type to which this regulation is applicable which generates a sound level in excess of 85 dB(A) measured on an open site with fast meter response at 50 feet from the longitudinal centerline of the vehicle, when its engine is accelerated from idle with wide open throttle to governed speed with the vehicle stationary, transmission in neutral, and clutch engaged. This paragraph shall not apply to any vehicle which is not equipped with an engine speed governor.

PART 205—TRANSPORTATION EQUIPMENT NOISE EMISSION CONTROLS

For reasons set forth in the preamble, the noise emission rules for medium and heavy trucks at 40 CFR Part 205, Subpart B, are amended as follows:

§ 205.52 [Amended]

Section 205.52(a) is amended by removing "1986" and inserting in its place "1988".

List of References

1. EPA Docket Number OPMO-0184, Items 1 thru 4.

2. Noise Emission Standards for Transportation Equipment—Medium and Heavy Trucks (41 FR 15538), April 13, 1976 (40 CFR Part 205, Subparts A and B).

3. Noise Emission Standards: Medium and Heavy Trucks and Truck—Mounted Solid Waste Compactors (46 FR 8497) January 27, 1981.

4. Federal Register notice soliciting comments on 80 dB standard (46 FR 17558) March 19, 1981.

5. Noise Emission Standards: Medium and Heavy Trucks and Truck—Mounted Solid Waste Compactors (47 FR 7166) February 17, 1982.

6. Motor Carriers Engaged in Interstate Commerce—Noise Emission Standards (39 FR 38208) October 29, 1974 (40 CFR Part 202 Subpart A and B).

7. Interstate Motor Carrier Noise Emission Standards—Final Regulations on Compliance (DOT) (40 FR 42432) September 12, 1975 (49 CFR Part 325).

8. Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines . . . (50 FR 10606) March 15, 1985 (40 CFR Parts 85 an 600).

9. EPA Docket Number OPMO-0184, Items 19, 20, and 22.

10. EPA Docket Number OPMO-0184, Items 14 thru 17.

11. Regulatory Impact Analysis, Oxides of Nitrogen Pollutant Specific Study and Summary Analysis of Comments. U.S. Environmental Protection Agency, March 1985.

12. Draft Analysis of the Health and Welfare and Economic Impacts of Revision of the Interstate Motor Carrier Noise Standard Coincident with a 2-Year Deferral of the MIIT 80 dB Noise Standard. U.S. Environmental Protection Agency, March 1984.

13. Information Brief on Bureau of Motor Carrier Safety Truck Noise Data for Interstate Motor Carriers, U.S. Environmental Protection Agency, June 8, 1982.

14. Draft Technical Analysis—Alignment the Interstate Motor Carrier Noise Regulat (with the Medium and Heavy Truck Noise Standard) U.S. Environmental Protection Agency, June 1982.

[FR Doc. 85-13003 Filed 6-18-85; 8:45 am]

BILLING CODE 6560-50-M