

Sackett

3/12 Corash-NA
cc Tuerk



81-02-06

FREIGHTLINER CORPORATION

4747 N. CHANNEL AVE.
P.O. BOX 3849
PORTLAND, OREGON 97208
503/283-8000

March 3, 1981

3/19 Tuerk-NA

N-96-01

TI-A-1040

Administrator
U.S. Environmental Protection Agency
401 M Street S.W.
Washington, D.C. 20460

I am submitting on behalf of Freightliner Corporation a Petition for Reconsideration - 1982 Medium and Heavy Truck Noise Emission Regulations, and ask that the 1983 80 dB(A) standard be withdrawn for the following reasons:

1. The benefits to be derived by the public as a result of reducing truck noise levels from the current levels to the level necessary to comply with the 80 dB(A) requirement are insignificant.
2. The costs of compliance with the 80 dB(A) requirement are more than originally anticipated by EPA, are not accompanied by any increase in fuel economy or productivity, and hence are clearly inflationary.

The enclosed document gives details to support the above arguments, based upon the community noise analysis done by the Battelle Columbus Laboratories under sponsorship of the Motor Vehicle Manufacturers Association, EPA's own background document on truck noise regulation, and Freightliner's estimate of increased costs required to comply with the 80 dB(A) standard. I must also indicate that we strongly support the Petitions for Reconsideration submitted to EPA by International Harvester, Mack, and the American Trucking Associations, Inc.

In the light of President Reagan's directive that non-productive or counter productive government regulations be eliminated, we ask that our petition be given careful consideration, and that the 80 dB(A) standard be withdrawn.

Yours sincerely,

Roger W. Sackett
Executive Vice President Engineering

RWS/mka

Enclosure



FREIGHTLINER CORPORATION

4747 N. CHANNEL AVE.
P.O. BOX 3849
PORTLAND, OREGON 97208
503/283-8000

March 3, 1981

Administrator
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Subject: Petition for Reconsideration, Title 40 Code of Federal Regulations Chapter 1, Part 205 Transport Equipment, Noise Emission Controls, Medium and Heavy Trucks

Freightliner Corporation hereby petitions the Administrator for reconsideration and revision of Section 205.52(a) of the NOISE EMISSION CONTROLS REGULATIONS FOR MEDIUM AND HEAVY TRUCKS published in the Federal Register on Tuesday, April 13, 1976, and as amended by notice 40 CFR Part 205 (NH-FRL 1736-7) published in the Federal Register January 27, 1981, and codified in 40 CFR Section 205.52(a). These regulations require that vehicles manufactured after January 1, 1983 shall be designed, built and equipped so that they will not produce sound emissions in excess of 80 dB(A). Under Section 6(c)(3) of the Noise Control Act of 1972 (the Act), the Administrator is empowered to revise any regulation prescribed by him under Section 6. The 1983 standard is part of such a regulation. Under Section 6(c)(1) of the Act, the Administrator is to take into consideration, inter alia, the cost of compliance. Under Presidential Executive Order 12044, Section 1 states that regulations shall not impose unnecessary burdens on the economy, on individuals, on public or private organizations or on state and local governments.

Freightliner Corporation contends that the 80 dB(A) regulation should be deferred indefinitely and that the EPA must desist from promulgating any further noise regulations for medium and heavy duty trucks until:

1. EPA has performed a thorough study of all available alternatives to regulating trucks as a means of reducing community noise levels and shows conclusively that any regulation promulgated is cost effective and in the public's best interests.
2. EPA has verified predictions of community noise benefits from the current 83 dB(A) regulation by actual field studies, and verified the various assumptions used in its community noise simulation model studies.
3. EPA has correctly accounted for tire noise in an urban traffic environment in its prediction of community benefit.

Administrator
U.S. Environmental Protection Agency
March 3, 1981
Page 2

4. EPA has accurately included the cost of transmission redesign in its predictions of costs associated with levels below 83 dB(A).
5. EPA has correctly assessed the impact of the initial 83 dB(A) regulation on eliminating excessively noisy trucks.
6. EPA has demonstrated that techniques for shielding, encapsulation, or enclosure required for levels below 83 dB(A) are practicable, durable, and serviceable, or that such techniques are not necessary because technology exists to quiet source noise from both engines and tires.

Freightliner's arguments are based upon community noise analyses done by the Battelle Columbus Laboratories under sponsorship of the Motor Vehicle Manufacturers Association, EPA's own background document on truck noise regulation, and Freightliner's estimate of increased costs required to comply with the 80 dB(A) standard.

1. Noise Sources

In the recent notice of the Federal Register (Ref. 3), the EPA stated that the "EPA has identified trucks as the number one source of surface transportation noise. This finding is based on a careful, detailed analysis by EPA of vehicles operating on the nation's roadway system." In reviewing the Background Document for Medium and Heavy Truck Noise Emission Regulations (Ref. 1), which was used to justify the levels for the 83 dB(A) and 80 dB(A) regulations, we are unable to find any statements or data that claim trucks to be the number one surface transportation noise.

This would indicate that this conclusion was made after the original background document was published, and was apparently made in light of new information not available at that time. To date, the only data that we are aware of which would support the EPA's contention are data from the "National Roadway Traffic Noise Exposure Model". Since this "National Roadway Traffic Noise Exposure Model" is still in draft form, has not been finalized and published, and is not generally widely available for comment, it is inappropriate to use conclusions from this source until it has been made available for public scrutiny and public comment. Until the EPA presents sound scientific data that are widely accepted to prove the point, we believe the EPA has erred in identifying "trucks as the number one source of surface transportation noise".

2. Benefits to Public Health and Welfare

The EPA's charter, as stated in the Noise Control Act of 1972, is to "promote an environment for all Americans free from noise that

Administrator
U.S. Environmental Protection Agency
March 3, 1981
Page 3

jeopardizes their health or welfare". With reference to the noise regulation for medium and heavy duty trucks, EPA 205, the EPA states the benefits to public health and welfare in the background document (Ref. 1, pages 4-1 and 4-2) to be:

"Measures of Benefits to Public Health and Welfare

The phrase public health and welfare, as used here, includes personal comfort and well being as well as the absence of clinical symptoms such as hearing damage.

Reducing noise emitted by trucks will produce the following benefits:

- Reduction in average traffic noise levels and associated cumulative long-term impact upon the exposed population.
- Fewer activities disrupted by individual (single-event) truck passby noise.
- Associated reduction of noise in truck cabs, which should reduce annoyance, speech interference, and possible hearing damage."

On the surface, these would appear to be admirable goals and ones which are hard to dispute if taken as the EPA has presented them. However, we feel the EPA has misconstrued several of the issues purporting to be public benefits. The EPA implies that one of the public benefits of reducing noise emitted by trucks is the absence of clinical symptoms, such as hearing damage. In our review of the technical literature, we find no reference that makes any claim of clinical symptoms for the community noise at the level at which the EPA is concerned. We do not believe the EPA can claim health benefits from their regulation unless data from scientific studies can be provided that will prove the current level of ambient traffic noise levels causes clinical symptoms.

Under benefits deriving from the regulation, the EPA lists a reduction in the average traffic noise level, along with fewer disruptions of activities. This is a clear reference to annoyance, an extremely subjective phenomenon highly dependent upon a variety of social, political, economic, and environmental circumstances. It basically comes down to an individual's likes, dislikes and tolerance to societal noise. We do not believe that annoyance should be classified as a health problem and believe that most community noise experts do not view annoyance as a health issue.

By their nature, health issues are extremely difficult to evaluate economically. However, if the premise is accepted that traffic noise is indeed not a health problem but rather one of annoyance, it is possible to make some evaluation of the benefits of noise reduction. Further, it allows a variety of economic alternatives to be evaluated

Administrator
U.S. Environmental Protection Agency
March 3, 1981
Page 4

to determine the most socially cost effective options. Such studies in the past have included the effect of traffic noise on property values, costs of "noise rights", and costs for quiet highway planning.

The EPA has never evaluated any other economic alternatives, either in terms of costs to an individual or what other options society has available to it. Certainly, since society will ultimately bear the costs of any noise reduction program in terms of increased prices, and decreased productivity, which contribute to inflation, a variety of economic alternatives should be presented so society can select the least cost alternative with the greatest benefits. To our knowledge, the EPA has never performed such a study, and has repeatedly avoided the opportunity to perform such a study, preferring to use such conclusions as appeared in the recent notice in the Federal Register, "We find this cost acceptable for the resulting reduction in noise" (Ref. 3, page 15). Certainly, included in the term public welfare should be consideration of the country's financial welfare.

Another benefit the EPA claims attributable to the passby regulation is a reduction in interior cab noise. "Associated reduction of noise in truck cabs, which should reduce annoyance, speech interference, and possible hearing damage (Ref. 1, page 4-2)." We should point out that cab interior noise is regulated to prevent hearing loss by the Bureau of Motor Carrier Safety and enforced by that agency.* Any further reduction of cab interior noise levels are best left to a free and competitive marketplace since quiet cabs have an obvious competitive advantage. We think the purchasers of vehicles are in a better position to decide on the value of quiet interiors and feel that the EPA can not claim this as a benefit. Further, the techniques used to solve exterior noise problems are not necessarily effective at quieting cab interior noise levels. The EPA itself has found exactly this to be the case (Ref. 1, page 441).

"On the White Motors DOT Quiet Truck, the reduction in exterior noise from 84 to 79 dB(A) produced a reduction in interior noise from 92 to 78 dB(A). However, a further reduction in exterior noise from 79 to 76 dB(A) resulted in an increase in the interior noise level from 78 to 90 dB(A). Therefore, data from the DOT Quiet Truck Program does not show a good correlation between exterior and interior noise levels."

The EPA cannot claim interior cab noise reductions as a benefit of regulations based upon exterior passby noise tests when test data cited in its own document demonstrate there is not a necessary correlation between the two variables.

* BMCS Regulations Part 393.94.

3. Cost Effectiveness

The EPA has not, to our knowledge, attempted to make an economic evaluation of the societal benefits that can be derived by more stringent noise regulations. If one concedes that traffic noise presents an annoyance rather than health risks, there are a variety of econometric procedures available to evaluate how much people will pay to eliminate noise. Since the public ultimately pays for any regulation which is imposed, it seems only reasonable that the EPA would attempt to assess how much the public values the benefits a new regulation will provide. The argument that the cost per person is negligible is totally invalid, since almost any regulation will show negligible costs per person when computed on that basis. However, when all regulations are considered cumulatively, the total costs can be staggering. Hence, each new regulation must show through sound economic analyses that it is cost effective. The EPA is obligated to the public to perform such analyses before implementing any new regulations.

One economic study of the EPA's truck noise regulations was done by the Council on Wage and Price Stability and used property values as an index of how much people valued the absence of annoyance (Ref. 4). Their conclusion was that only the 83 dB(A) regulation was cost effective (and only if it included the fuel savings due to fans, which has since been disallowed). Any more stringent levels could not be cost justified. There are a variety of economic factors, such as property values, that can be used to evaluate additional noise regulations.

Until the EPA performs a thorough economic study justifying additional regulations, the country should not be forced to shoulder another inflationary and counter-productive regulation.

We think cost/benefit arguments are critical to any new regulation and should be given thorough consideration. In the EPA background document (Ref. 1, page A-6-1), "General Motors commented that the total cumulative costs for the proposed regulations (both the 83 dB(A) and the 80 dB(A)) will be \$16.2 billion in 1990, and the noise reduction will be 10.1 dB(A); whereas, the costs for only the 83 dB(A) regulation will be \$5.2 billion (or 32 percent of \$16.2 billion) and the noise reduction will be 8 dB(A) (or 80 percent of 10.1 dB(A)). Therefore, the additional costs of \$11 billion for the small increase in benefits is not cost effective."

In the past, the EPA has chosen to ignore the economics of their regulations, as the following comment from the background document illustrates (Ref. 1, page A-3-19): "However, the statutory mandate given to EPA in the Noise Control Act is to promulgate regulations which are requisite to protect the public health and welfare. The statutory mandate is not to set regulatory levels at a point beyond which the rate of return in benefits begins to decrease".

4. Necessity for Field Studies

The EPA used field studies and consulting services to validate initial assumptions and estimates used in computer models to justify the 83 dB(A) regulation. The EPA has continued to use computer models to attempt to justify the 80 dB(A) regulation. Since the country has been working with the 83 dB(A) regulation for three years, it would seem appropriate that the EPA conduct field studies to verify their computer model and validate the assumptions made in formulating and exercising the model. We feel the EPA should not launch a new regulation without verifying the predictions and effectiveness of their first regulation. To date, we are unaware of any such verification field studies being performed by the EPA.

Implementation of the 80 dB(A) regulation should be deferred indefinitely until the EPA can verify through field studies the accuracy of their predictions for the 83 dB(A) regulation and show that the 80 dB(A) regulation will be cost effective.

5. Tire Noise

The question of tire noise and whether it will mask the effects of quieting the power train has been brought up many times, not only by Freightliner, but by others also (Ref. 5, 6, 7). There is little disagreement between EPA and the truck manufacturing industry on the contributed noise levels due to tires; however, the EPA claims that since most noise impacts occur in urban environments at speeds less than 35 mph, tire noise will not mask reductions in power train noise. In the recent notice in the Federal Register, it states: "EPA's analysis clearly distinguished between benefits that accrue to people exposed to urban traffic noise (low speed) where tire noise is only a very minor contributor, and to those exposed to freeway traffic noise (high speed) where tire noise is a significant contributor. This analysis shows that approximately 92% of traffic noise impacts occur in the urban environment where tire noise is a relatively insignificant contributor." (Ref. 3, page 21-22.) We agree that most impacts occur in the urban environment, but disagree that tire noise is as insignificant as the EPA would make it appear to be. We believe the EPA's conclusions are incorrect for one or more of the following reasons:

1. Inaccurate demographic information.
2. Incorrect modeling procedures.
3. Incorrect interpretation of modeling results.

Battelle Laboratories, under contract to MVMA (Ref. 2), has developed a model similar to that which was developed by EPA. Battelle's model, however, is more complete in that it takes more factors into consideration, and is therefore more accurate than the one used by the EPA

Administrator
 U.S. Environmental Protection Agency
 March 3, 1981
 Page 7

five years ago to produce the data contained in the background document. Further, the input data used in the Battelle analysis were from current vehicles, while the input data used by EPA are already over four years old. The EPA notes in Reference 3, page 23, "From the description of the Battelle model supplied to EPA by a manufacturer, the EPA and Battelle models appear sufficiently similar so as not to be a major point of contention".

Results available from the Battelle model show apportionment of noise exposure by road types. This allows one to compare the number of people exposed to low speed traffic noise (where tires are insignificant noise contributors) to the number of people exposed to high speed traffic noise (where tires are a significant noise source). Exposures by road types for an 83 dB(A) regulated scenario are shown in the table below.

Apportionment of Exposure by Road Types (83 dB(A) Regulation)
 (Ref. 2, Page 18)

Road Type	Population Exposed Above Given Ldn (Millions)					
	55	60	65	70	75	80
Interstate	14.5	5.8	2.3	0.9	0.3	0.02
Other Freeway	8.0	3.1	1.3	0.5	0.1	0
Major Arterial	21.7	9.4	3.8	0.9	0.02	0
Minor Arterial	15.5	6.6	1.8	0.03	0	0
Collector	11.9	4.7	0.9	0	0	0
Local Street	11.3	0.4	0	0	0	0

Using the "level weighted person" concept recommended by EPA (Ref. 3, 12-13, and Ref. 1, pages 4-15, 4-18), this table can be transformed to equivalent "level weighted persons" as shown below:

Equivalent Number of People Exposed (83 dB(A) Regulation)
 Above Given Ldn (Millions)

Road Type	55	60	65	70	75	80	Totals	%
	(0.125)	(0.375)	(0.625)	(0.875)	(1.125)	(1.375)		
Interstate	1.81	2.18	1.44	0.79	0.34	0.03	6.59	21
Other Freeway	1.0	1.16	0.81	0.44	0.11	0	3.52	11
Major Arterial	2.71	3.53	3.19	0.79	0.02	0	10.24	33
Minor Arterial	1.94	2.48	1.13	0.03	0	0	5.58	18
Collector	1.49	1.76	0.56	0	0	0	3.81	12
Local Street	1.41	0.15	0	0	0	0	1.56	5

Peq = 31.30 100

This table allows for a comparison of the percentages of "equivalent people" exposed by roadway type, which provides an indication of how serious tire noise will be. From the percentage column on the far right, 21% of the "equivalent people" are impacted by noise originating from interstates, while 11% of the "equivalent people" are impacted by other freeways. This gives a total of 32% of the "equivalent people" who are impacted by traffic noise that originates from high speed sources where tire noise is a significant contributor. This is four times the EPA's estimate of 8%. In addition, we also believe that a good portion of impacting major arterials have speeds significantly in excess of the EPA's model of 27 mph, making tire noise even more significant. These results show that tire noise cannot be as easily discounted as the EPA contends.

6. Transmission Noise

In the recent federal register notice, the EPA incorrectly assessed the reason for the current transmission industry redesign effort. "EPA has determined that widespread changes in transmission design are currently underway by several of the major transmission manufacturers. These changes were not initiated to accommodate the noise regulations. Rather, truck fuel efficiency and performance have dictated transmission redesign, in addition to the derating of engines and changes in axle ratios." (Ref. 3, page 15.) We believe the EPA has erred in its determination, since our transmission vendors have indicated their current redesign effort was precipitated by the 80 dB(A) noise regulation, which would require vehicle builders to have 70 dB(A) or quieter transmissions in order to meet the 80 dB(A) regulation. In the process of redesigning the transmissions to quiet them, it was also advantageous to change gear ratios and ratings. Truck fuel efficiency and performance alone can be accommodated more economically by gearing changes and other modifications short of a total redesign of the transmission. The 80 dB(A) noise regulation caused an accelerated transmission redesign cycle that would not have occurred in the absence of pressure from the pending 80 dB(A) regulation. We think it is appropriate to associate the costs of the current transmission redesign effort to the 80 dB(A) regulation.

7. Modeling Assumptions

The EPA made extensive use of results from a computer model to justify noise regulations and proposed implementation dates. According to the EPA background document (Ref. 1), most of the benefits from the regulations do not accrue until 1990 or 2000. In just five years, since the original model results were published in the background document in 1976, much of the cost data used and some of the assumptions regarding markets and usage of components in the EPA computer model have proven invalid: To cite a few:

1. Fuel prices.
2. Market share of medium duty diesels.
3. Interest rates.
4. Market growth rates.
5. Trend toward modulating fans.

Since it was not possible for EPA to accurately predict these values five years into the future, we seriously question the likelihood of the benefits EPA claims in 1990 and 2000 ever materializing given the volatile nature of fuel prices, market growth, interest rates, vehicle replacement rates, and the research into alternative power plants.

8. Impact of Outliers

An outlier is defined as a vehicle which has some characteristic that grossly exceeds an average value or accepted norm. Surveys on noise and annoyance have shown that annoyance increases when single sound events are distinguishable from the continuous ambient background noise level (Ref. 8, Chapter 16, 35). For example, a single noisy vehicle in a generally less noisy traffic stream is easily identifiable and if loud enough can cause annoyance. We believe that a relatively small percentage of vehicles, the statistical outliers, have claim to a disproportionate percentage of the community annoyance. A table from the EPA's background document (Ref. 1, Table 4-20) should help illustrate this point. The table below compares the noise levels for existing unregulated trucks in 1976, future 83 dB(A) trucks, and future 80 dB(A) trucks.

Percentile Noise Levels for Individual Truck Passbys
 (Ref. 1, Page 4-37, Table 4-20)

Truck Type	Percentile Passby Noise Levels				0
	L50	L10	L1	L0.1	
Existing Trucks	83.5 dB(A)	88.2 dB(A)	91.8 dB(A)	94.9 dB(A)	3.7 dB(A)
83 dB(A) Regulated Trucks	77.2 dB(A)	79.1 dB(A)	80.5 dB(A)	81.8 dB(A)	1.5 dB(A)
80 dB(A) Regulated Trucks	76.0 dB(A)	77.9 dB(A)	79.3 dB(A)	80.6 dB(A)	1.5 dB(A)

It should be noted that going from the unregulated environment to 83 dB(A) regulated trucks dropped the L10, L1, and L0.1 (10%, 1%, and 0.1% percentile trucks) noise levels 9.1 dB(A), 11.3 dB(A), and 13.1 dB(A) respectively. Additional regulation to 80 dB(A) drops the L10, L1, and L0.1 levels only an additional 1.2 dB(A), 1.2 dB(A), and 1.2 dB(A) respectively. Obviously, the first regulation of 83 dB(A) was much more effective than the additional regulation of 80 dB(A).

Administrator
U.S. Environmental Protection Agency
March 3, 1981
Page 10

We believe the first regulation was the most cost effective at removing those vehicles likely to cause the most annoyance. The first regulation placed all truck manufacturers on an equal footing and removed any competitive incentive for building outliers. Subsequent regulations give little relief from any additional outliers because they no longer exist in the new vehicle population. Outliers in the current regulated environment will develop only with time as vehicles age and required maintenance is not performed. Noise limits for these vehicles are enforced by the BMCS, state, and local authorities, and do not belong in the EPA's analysis of the effectiveness of EPA 205. Any attempt to make small noise reductions in new vehicles in order to compensate for a few existing, inadequately maintained, noisy vehicles is inefficient and should not be the goal of EPA 205.

The 80 dB(A) regulation should be deferred until the EPA has evaluated the effectiveness of the 83 dB(A) regulation when compared to the unregulated environment and determined whether the majority of the benefits have already accrued by elimination of the outliers. This will require use of a modeling procedure different from the one currently used by EPA which gives only average noise levels in the form of L_{dn} .

9. Modeling Procedures

We believe the EPA computer model may no longer represent "state-of-the-art" modeling. The following assumptions need to be reviewed:

1. Population density assumptions and supporting references.
2. Assumptions concerning land use adjacent to highways, arterials, and local streets.
3. Attenuation factors due to buildings and other obstructions adjacent to roadways.
4. Calculation procedure for urban residents in proximity to freeways and interstates.
5. Assumptions concerning daily population shifts, i.e., people's travel to work, school, and shopping.
6. Weekly variations in average sound levels, i.e., the effect of noise reductions occurring on weekends due to normal business closures.
7. Voluntary noise exposures in the home during the pursuit of normal activities, i.e., radio, television, cleaning, working, etc.
8. Calculation procedure for urban residents exposed to high speed traffic (55 mph) and low speed traffic (27 mph) simultaneously and whether the EPA classifies them as urban exposures or freeway exposure.

The 80 dB(A) regulation should be deferred until the EPA has reviewed their modeling procedures and determined that the model has not been superceded by more thorough and precise models which account for many of the items raised above.

10. Demonstration of Technology

Prior to implementing new regulations, EPA is responsible for showing that effective technology is either available or can be reasonably developed so that the regulation can be met without imposing unnecessary burdens. The EPA has been involved in ongoing programs to demonstrate and develop new technology and periodically hosts public meetings at which the results of these programs are presented. The following conclusions were reached after attending the most recent Noise Contractor's Conference (Ref. 9):

- A. Although some progress is being made in research projects directed at quieting diesel engines and tires, it is apparent that it will be many years, perhaps decades, before significantly quieter engines or tires will be in general use in the trucking industry.
- B. Although the research conducted by Bolt, Beranek, and Newman, Inc. (BBN), United Parcel Service (UPS), (and previously by Freightliner and International Harvester and others) demonstrates that noise levels of some heavy trucks can be significantly reduced by encapsulation, enclosure and shielding, it is apparent that:
 1. Some vehicle/engine combinations are extremely difficult to quiet below levels currently mandated. (Example: BBN's problem with the Mack R686.)
 2. Field tests of longer duration have demonstrated that it is difficult to maintain noise shields in place because of problems of durability of the shields, and lack of accessibility to various chassis and engine/drive train components for inspections and maintenance.
 3. Field tests of shorter duration have not given conclusive evidence that the well designed and implemented shielding devised by BBN for the Ford CLT-9000, IH 4510, and GM Brigadier will indeed be durable, will not be inordinately expensive to maintain, nor cause operational problems. EPA should continue these field tests to 500,000 miles or longer to ensure survival of noise shielding through the first major engine overhaul before drawing any conclusions.

Therefore, since the 80 dB(A) standard requires use of noise shields for many categories and configurations, and the durability and serviceability characteristics of these shields have not been proven, the 80

dB(A) standard should not be imposed until engine and tire noise source levels are diminished.

11. Inflationary Impact Upon the Transportation Sector

The EPA has heard from many of the individual vehicle manufacturers on why the 80 dB(A) regulation should be deferred. Because vehicle manufacturers are responsible for complying with the passby regulations, they have the most exposure to the EPA proceedings. However, truck operators must bear the ultimate costs of the regulation in terms of higher vehicle prices, decreased fuel economy, and increased maintenance. In order to demonstrate the cost impact upon the truck operators, we have evaluated the incremental cost of complying with the 80 dB(A) regulation over the next five years for one of our customers, Consolidated Freightways Corporation of Delaware (CFCD). Ordinarily, CFCD replaces most of its vehicles in a five year cycle. The cost breakdowns for the linehaul equipment, city tractors, and pickup and delivery units are included.

Incremental Costs For CF Due to 80 dB(A) Regulation (1981 Dollars)

<u>Year</u>	<u>New Vehicle Costs (1)</u>	<u>Fuel Costs/Year (2)</u>	<u>Maintenance Costs/Year (3)</u>	<u>Total Cost Through 1987</u>
1983	\$456,200	\$30,400	\$190,400	\$1,560,200
1984	457,300	30,500	190,700	1,342,180
1985	263,400	14,400	138,300	721,500
1986	310,000	19,600	150,900	651,000
1987	344,400	22,100	160,100	526,600
				<u>\$4,801,400</u>

- (1) New vehicle costs are based upon a Freightliner price increase estimate of \$563 for a 4X2 heavy diesel and \$546 for a 6X2 heavy diesel. Cost increases for medium gas and medium diesel are based upon EPA estimates from Ref. 3, Table 3.2, and are \$120 and \$360 respectively.
- (2) Increased fuel costs are based upon EPA estimates from Ref. 3, Table 3.7.
- (3) Increased maintenance costs are based upon EPA estimates from Ref. 3, page 18.

Since CFCD's fleet of over 3,000 Class 8 vehicles represents approximately 0.5% of the total number of new vehicles registered over a five year period, the total cost to all U.S. operators extrapolates to over one billion dollars. These costs are clearly inflationary, since no improvement in fuel economy or productivity results from the imposition of the regulation, and these increased costs must be reflected in increased freight rates.

12. Current Compliance Levels

One final point that we call to your attention is the average sound rating from trucks being produced by Freightliner to comply with the current 83 dB(A) regulation. Based upon over 2,000 production

Administrator
U.S. Environmental Protection Agency
March 3, 1981
Page 13

verification and audit tests, conducted since June 1, 1978, the average sound rating measured in these tests is 80.4 dB(A). This is a conservative figure since in most categories of vehicles tested, we have tested the noisiest configuration. The same engines derated to lower power output, or set to lower governed rpm, will be quieter. Thus, we estimate that a better figure for the average Freightliner produced since June 1, 1978 would be 79 dB(A). It should be noted that vehicles must be designed with a 2 dB tolerance to allow for variations in components and assembly processes. Thus, for the 83 dB(A) standard, vehicles must generally be designed for an 81 dB(A) rating; for the 80 dB(A) standard, they would have to be designed for a 78 dB(A) rating. Keeping the average figure of 79 dB(A) for current vehicles in mind, and the fact that we are constrained by law to in no case produce a vehicle with a noise rating higher than 83 dB(A), we do feel that an adequate contribution to lowering truck noise levels has already been made to the public benefit.

Conclusion

From the information and arguments given in this document, Freightliner concludes that the 1983 80 dB(A) regulation for medium and heavy duty trucks will impose an unnecessary burden on the people of the United States. We base our conclusion on the fact that the regulation cannot be cost justified, will not result in any significant reduction in community noise levels, will not contribute to the productivity of the trucking industry, and hence will be inflationary. Since the Administrator is empowered to revise any regulation prescribed by EPA under Section 6 of the Noise Control Act of 1972, we ask that the 80 dB(A) regulation be indefinitely postponed.

Respectfully submitted,



Ray W. Murphy
Director
Research and Development

RWM/mka

References

1. U.S. Environmental Protection Agency, Washington, D.C., Background Document for Medium and Heavy Truck Noise Emission Regulations, March 1976, EPA-550/9-76-008.
2. J. D. Allen and M. D. Kurre, "Report on the Contribution of Medium and Heavy Trucks to Community Noise on a National Scale, to Motor Vehicle Manufacturers Association", November 1980, Battelle Columbus Laboratories, 505 King Avenue, Columbus, Ohio 43201.
3. 40 CFR Part 205 (NH-FRL 1736-7) Noise Emission Standards: Medium and Heavy Trucks and Truck-Mounted Solid Waste Compactors, Federal Register/ Vol. 46, No. 17/January 27, 1981, pages 8497-8511.
4. Council on Wage and Price Stability, "Comments of the Council on Wage and Price Stability Regarding Proposed Noise Emission Standards of Medium and Heavy Trucks", May 9, 1975.
5. Freightliner comments submitted on December 19, 1974 to Docket No. ONAC74-1.
6. Murphy, Ray W., "Design, Construction, Testing, and Field Operation of a Quieted Diesel Highway Truck", Proceedings of the 17th International Congress of FISITA, Vol. III, page 1777, June 1978.
7. Pataky, Paul P., "Projecting the Impact of New Medium and Heavy Truck Noise Regulation Strategies on Community Noise Levels", SAE Paper 781069, December 1978.
8. Cyril M. Harris, Handbook of Noise Control, McGraw-Hill Book Company, 1979.
9. Sixth EPA Contractor's Coordination Meeting, Conducted by the Office of Noise Abatement and Control, Warren, Michigan, February 4 and 5, 1981.