II-96-01
II-A-1102

#1:

INTERNATIONAL HARVESTER PETITIONS
AND RELATED EPA/IH CORRESPONDENCE.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

OFFICE OF
AIR, NOISE, AND RADIATION

Mr. L. A. Abbott
Vice President, Technical Services
Truck Group Engineering
International Harvester Corporation
P.O. Box 1109
Fort Wayne, Indiana 46801

Dear Mr. Abbott:

Let me express my thanks for the warm hospitality extended to me and my staff by you and the International Harvester Corporation. We found the conference talks impressively complete and efficiently conducted. I am sure this aided in the ease with which information was exchanged and the level of understanding on mutual consensus items, as well as differences.

As a result of these discussions the seven items below were identified as needing response to complete our respective investigations. The first three are points of information we shall clarify for IHC, while the latter four are points to be clarified by IH for the U.S. Environmental Protection Agency.

U.S. EPA to IHC

1. An annotated version of the truck regulation preamble (40 CFR 205) to clarify the issues of the fan clutch benefits exemption from rulemaking rationale. (Enclosed).

2. Copies of letters of petition addressed to EPA from interested parties requesting the continuation of the regulatory schedule as planned. (Enclosed).

3. Comparison of U.S. EPA unit cost extrapolation with IHC typical unit cost effect after adjustments for inflationary effects. (To be supplied after receipt of items 4 and 5 below).

IHC to U.S. EPA

4. Provide the necessary information to determine model/engine classification by GVWR.

#1

5. Class cost figures for general noise fix areas (i.e., sheetmetal, turbo-charging, transmission, muffler).

6. Provide cost impact areas not used in IHC analysis but pertinent to U.S. EPA analysis. (O&M costs, fuel loss costs, inflationary effects) and identify the importance IHC attached to these areas.

7. Provide copies of the viewgraphs/slides showing the planned technical approaches for quieting the 10 example IH vehicles to the 80 dBA level.

Please let me know if your recollection of the agreed-upon action items differs from the foregoing.

We are presently examining the data base used in our economic analysis model and making modifications that are deemed appropriate based on the issues discussed at the December 18th meeting. These updates will be based on our own data resources and the forthcoming data from International Harvester. To expedite this effort the EPA points of contact will be Mr. Tim Barry at (703) 557-2710 or Mr. Samuel McKeon at (703) 557-7666.

We remain committed to responding to the International Harvester petition and data submittals as quickly as possible. To the extent that this is reflected in the provisions of the IH information cited, we are bound to your responsiveness, as I am sure you realize.

Sincerely,

Henry E. Thomas
Director
Standards & Regulations Division

Enclosures

Federal Register

TUESDAY, APRIL 18, 1978

PART III:

ENVIRONMENTAL PROTECTION AGENCY

NOISE EMISSION STANDARDS FOR TRANSPORTATION EQUIPMENT

Medium and Heavy Trucks

this regulation was proposed prior to that date it was not subject to that policy, and a draft EIS consequently was not prepared. The Background Document published in support of both the proposed and this regulation contains a substantial portion of the information which would otherwise be found in an Environmental Impact Statement.

3.3 Economics

3.3.1 A number of commenters indicated the benefits below 83 dBA are not cost effective.

The Act does not require that standards be set that are cost effective in terms of return in benefits for the costs incurred. The mandate to EPA in the Noise Control Act is to set standards necessary to protect public health and welfare, taking into account available technology and the cost of compliance. However, based on an extensive analysis undertaken by the Agency of the benefits and costs for a wide range of regulatory options, the cost effectiveness of these regulations is higher than indicated in public comments. The estimated uniform annualized* costs for the regulation are no more than 0.26 percent of the uniform annualized revenues of the trucking industry.

Based on assessment of the increase in truck prices due to compliance with this noise emission regulation it is estimated that to meet 83 dBA a 1.0 percent average increase in price would result and to meet the 80 dBA standard a 2.8 percent average increase in price would result. Regarding estimates of initial price increases, the public comments in the docket and public hearings identified significant differences between EPA and industry, particularly in the cost associated with compliance with a 75 dBA standard for heavy trucks. The Agency has determined that further analysis of potential cost increases related to a standard more stringent than those established by this regulation is necessary and, consequently, has delayed establishment of more stringent noise control standards.

The cost analysis which has been conducted by the Agency represents a worst case analysis. The component costs are based on 1975 technology and do not include cost reductions that would occur through application of this technology to mass production processes. Further, it can be anticipated that advances in technology and the production application of technology will occur following the promulgation of this regulation and will likely result in reductions in the cost estimates projected at this time by the Agency.

*Uniform annualized costs are the equal annual annuity payments made on a hypothetical loan borrowed by the user of a product to pay for the additional annual operating maintenance, and capital expenditures incurred over the life of the product due to the application of noise abatement technology. The principal of this hypothetical loan is equal to the total present value of these initial and future expenditures.

The Administrator has carefully considered the costs and economic impact with respect to the benefits to be derived as a result of this regulatory action and judged them to be reasonable.

3.3.2 Several commenters indicated that the costs of the regulation, as presented by EPA, are too low.

1. Increases in Truck Prices: The differences between the estimates of truck price increases made by the Agency and the estimates presented by truck manufacturers in the public comments on the proposed regulations are caused by differences in (1) the noise treatments considered necessary to comply with the regulatory levels and (2) the estimates of the cost of each unit of noise treatment hardware.

The EPA estimates of truck price increases are based on specified cost estimates for noise control treatment hardware for cooling, exhaust, engine and air intake noise treatment for trucks equipped with gasoline engines and for trucks equipped with one of twelve diesel engine models. The cost estimates for noise control hardware were derived from three sources, namely: truck manufacturer's estimates, list prices for hardware currently in production, and estimates reported in the DOT Quiet Truck Program.

2. Changes in Operating Costs: The Agency has presented estimates of changes in fuel and maintenance costs for trucks which comply with the regulations. These estimates are based on documented data from the DOT Quiet Truck Program. Estimates are made which include credit for fuel savings from more efficient fans and fan clutches and savings in maintenance for exhaust gas seals. Estimates are also presented which exclude the above savings.

3. Costs of Testing: The Agency has estimated to the degree possible design and development costs. These costs are difficult to treat in a generalized manner since they depend heavily upon the practices of each individual firm. However, the following provides insight into the approximate magnitudes of these costs. Design costs should be nominal since, after the appropriate sound attenuation elements have been defined via a development program, what remains is to properly incorporate them into the overall vehicle design. This means providing for the installation of suitable fans, mufflers, and possibly enclosures. This class of problems is encountered during the design of any new model of a vehicle and inclusion in the design phase of considerations for noise control components is estimated to have little cost impact.

Conducting a development program will, however, require a test site, acoustical instrumentation and personnel. Many manufacturers already possess acoustic facilities and suitable engineering personnel. For such organizations, the development program required for compliance with the regulations would simply be a continuation of efforts which already are in progress. The Agency has estimated the total annual costs to the industry of testing as between $155,000 to $230,000. Annual production is estimated at about 400,000 vehicles to which these regulations are applicable. The costs of testing would, therefore, be less than $0.60 per vehicle when considered over the total production.

3.3.3 A number of commenters felt that EPA should not include fuel savings from fan clutches in estimating the operating costs.

The issue has been raised on the basis that due to rising fuel prices and increased fuel economy resulting from their use, clutched fans may gain widespread acceptance in the truck market without the promulgation of these noise standards. However, a large number of trucks now being manufactured are not equipped with demand fans even though fuel costs have significantly increased during the past 2 years. Fuel savings should not, therefore, be totally excluded as a benefit of noise control regulation. EPA, in its cost analysis, has considered the two cases of (1) crediting fuel savings to its regulation resulting from the application of demand controlled fans and (2) crediting no fuel savings to regulation, thus establishing an upper and lower bound for the costs associated with the regulation directly related to potential fuel savings. In the Background Document accompanying this regulation, the costs for the trucks both with and without fans savings are presented. The true cost will fall somewhere between these two cases.

4. CONTINUING AGENCY RESPONSE TO PUBLIC COMMENTS

As mentioned in the foregoing Agency responses to public comments, additional study is required in some areas.

As data is collected by or made available to the Agency, these regulations will be revised pursuant to section 6(c)(3) of the Act. The Agency will assess quiet engine and other noise control technology development as the standards required by this regulation are implemented and will propose lower standards for medium and heavy trucks for the period beyond 1982, allowing reasonable time for implementation of such standards.

5. DISCUSSION AND DISPOSITION OF SUGGESTED CHANGES IN THE PROPOSED REGULATION

The Medium and Heavy Truck Noise Emission Regulation which is now being promulgated incorporates several changes from the proposed regulation which was published on October 30, 1974. These changes are based upon the public comments received and the results of additional studies performed by the Agency to assess the impact of the regulation. In most instances, changes were made to merely clarify the intent of the regulation.

5.1 Definition of "Slow Meter Response"

The definition of the "slow meter response" has been deleted, since it is not applicable to the regulation.

comments and changes are discussed in detail in the Background Document.

Specifically, the following modifications were made:

5.11.1 Inspections and data acquisition have been limited to that information necessary for the Administrator to determine whether the manufacturer has been or is distributing into commerce conforming products.

5.11.2 Notice and opportunity for hearing has been provided for in all cases where recall or cease to distribute orders are to be issued.

5.11.3 Portions of the regulation which limited the right of counsel in any way have been deleted.

5.11.4 Provisions in the proposal requiring personal appearance of employees before EPA Enforcement Officers have been deleted.

5.11.5 Information recording and reporting requirements have been revised to make them quicker and simpler.

5.11.6 The regulation has been amended to allow automatic conditional waiver of the production verification requirement for up to 45 days to allow distribution of vehicles where inclement weather has delayed testing.

5.11.7 The requirement of ten days' advance notice of intent to test has been deleted.

5.11.8 The regulation has been amended to allow a manufacturer to production verify selected configurations in any order he desires.

5.11.9 The definitions of category and configuration have been changed so as to significantly reduce the number of defining parameters and reduce the number of categories that would require testing.

5.11.10 The requirement that tampering information be provided to the Administrator 90 days before distribution has been reduced to 30 days.

5.11.11 The requirement that the manufacturer submit information on noise-related performance specifications has been deleted.

5.11.12 The batch determination for SEA testing purposes will be based to the extent practicable, on build rate information submitted pursuant to a request for production information, ordered under 205.53(b).

5.11.13 Provision has been made to allow a manufacturer to petition the agency for review of agency modifications to the manufacturer's suggested maintenance instructions.

6. Impact of the Regulation

Using data and information accrued to develop the proposed regulation, complemented by additional technological and economic data and information made available to the Agency during the public comment periods, the Agency re-evaluated the impact of the medium and heavy truck regulation being promulgated. Summarized below are the impacts anticipated.

6.1 Public Health and Welfare

It is estimated that over 98.3 million people are exposed to urban transportation noise levels that are in excess of Ldn 55. Ldn 55 is the level EPA has identified as protective of public health and welfare with an adequate margin of safety. Compliance with the new truck regulation in combination with other vehicle noise control regulations will result in a reduction in the extensiveness (number of people impacted) and severity (magnitude of each person's exposure) of current noise impact by 30.0 percent in 1982, 55.2 percent in 1991, and 57.9 percent by the year 2001. Further, compliance with the new truck regulation along with the regulation of portable air compressor noise at 76 dBA (measured at 7 meters), could produce a combined reduction in construction site noise impact severity in the order of 33 to 43 percent.

In terms of the actual number of people receiving benefits from the medium and heavy truck regulation being promulgated, the regulation will have the direct effect on reducing the impact of urban traffic noise for 98.3 million people and of construction site noise for 27.4 million people.

6.2 Cost and Economic Impacts

The uniform annualized cost is estimated by the Agency to be $225 million when no credit for fuel saving, due to the application of thermostatically controlled-fan clutches and efficient fan designs, is credited to the regulation. If credit for the fuel savings resulting from the application of these fan noise treatments is accrued to the truck noise control regulation, the resulting "cost" is in fact a uniform annualized "saving" of $523 million. The costs as reported, have been developed as worst case costs for quieting existing trucks to a level which meets the standards which incorporating an adequate quality control margin to assure compliance by the manufacturer.

These costs assume no improvements in technology, design or application in quantity in the production of trucks. With improvements in technology and with mass production it is estimated that the above costs may be further reduced by up to 50 to 60 percent.

Truck list price increases are expected not to exceed those shown in the following table:

Increase in truck prices due to noise controls by type of truck

Type of truck	83 dBA		80 dBA	
	Price increase	Percent increase	Price increase	Percent increase
Medium, gasoline	$35	0.4	$180	3.1
Heavy, gasoline	125	1.1	255	2.2
Medium, diesel	420	7.3	650	11.5
Heavy, diesel	350	1.4	580	2.3

7. Future Intent

The Agency is pursuing a strategy through which major contributors to surface transportation noise will be identified and subsequently regulated. A coordinated approach is necessary because of the multitude of transportation vehicular sources which may be operating at the same time and the quieting of only one type vehicle will not in itself be sufficient to adequately reduce the noise to a level the Agency believes required to protect the public health and welfare.

As indicated in the EPA Identification of Major Sources of Noise Report (39 FR 22297-99, June 21, 1974), the principal candidates for future regulatory efforts are known. On May 28, 1975, the Agency identified the following pieces of surface transportation equipment as major sources of noise: buses and motorcycles (40 FR 23105). Regulatory development is well underway to establish noise control standards for these two products. The levels chosen for the standards in this rulemaking are consistent with the overall requirements to quiet all vehicles in order to ultimately quiet overall traffic noise.

The Agency also intends to commence regulatory action on other surface transportation equipment in the near future. These further actions will include separate rulemaking procedures for tires and a revision to the interstate motor carrier regulations (39 FR 38208-216, October 29, 1974) requiring newly manufactured medium and heavy trucks to maintain a specified noise emission level while operated by motor carriers engaged in interstate commerce.

8. Background Document

Notice of the availability of the Document entitled "Background Document for Proposed Medium and Heavy Truck Noise Emission Regulations" was published in the Federal Register on October 30, 1974 (39 FR 38338). This document has been substantially revised and provides the basis for the standards established by this rulemaking. This new document is entitled "Background Document for Medium and Heavy Truck Noise Emission Regulations." It is quite lengthy, and it would be impractical to publish it in its entirety in the Federal Register. Copies may be obtained from the EPA Public Information Center (PM 214), Room 2104D, Waterside Mall, 4th and M Streets SW., Washington, D.C. 20460.

Dated: March 31, 1976.

Russell E. Train,
Administrator.

40 CFR CHAPTER I is amended by adding a new Part 205, reading as follows:

Subpart A—General Provisions

Sec.

205.1	General applicability.
205.2	Definitions.
205.3	Number and gender.
205.4	Inspection and monitoring.
205.5	Exemptions.
205.5-1	Who may request an exemption.
205.5-2	Testing exemption.

STATE OF
WASHINGTON
Dixy Lee Ray
Governor

DEPARTMENT OF ECOLOGY
Mail Stop PV-11
Olympia, Washington 98504
206/753-2800

October 24, 1980

Ms. Helen Baer
Chief, Noise Control Program
U.S. Environmental Protection
Agency - Region X
1200 Sixth Avenue - Mail Stop 533
Seattle, Washington 98101

Dear Helen:

I wish to express a serious concern with the International Harvester Company's petition for EPA to withdraw the 1982 noise emission regulation for medium and heavy trucks.

As you are aware, the Washington State Department of Ecology recently amended its "Motor Vehicle Noise Performance Standards" Chapter 173-62 of the Washington Administrative Code (WAC). The amended rules were adopted on September 10, 1980 after more than a year of meetings and comments for our technical advisory committee. Representatives from MVMA, Ford Motor Company, General Motors, International Harvester, PACCAR Inc., representing Kenworth trucks, local government representatives and the Motorcycle Industry Council met and commented on the amended motor vehicle noise rules. Table III of WAC 173-62-030 sets new vehicle standards after January 1, 1976 at 80 dBA for vehicles 10,000 pounds GVWR or less, after January 1, 1982 at 80 dBA for all other motor vehicles over 10,000 pounds GVWR. As you can see, we are attempting to bring all new vehicles to a level of 80 dBA on or before 1986.

Another major thrust is the lowering of in-use vehicle noise levels. The amendments to Table III of WAC 173-62 have accomplished this for motorcycles and all vehicles 10,000 pounds GVWR or less. Also established in this table are reserved levels for all motor vehicles over 10,000 pounds GVWR in 1986. A new lower in-use standard can best be accomplished if new trucks are manufactured to meet 80 dBA in 1982 as currently required.

The department's enabling legislation, the Noise Control Act of 1974 states: "The legislature recognizes that the operation of motor vehicles on public highways as defined in RCW 46.09.020 contributes significantly to environmental noise levels and directs the department, in exercising the rulemaking authority under the provisions of this section to give first priority to the adoption of motor vehicle noise performance standards." This I take as a mandate of our legislature to reduce environmental noise levels through the reduction of new and in-use motor vehicle noise levels.

I also take issue with the International Harvester's contention that "the current 83 dBA standard has significantly reduced community noise levels, ...and that further reduction to 80 DBA will have only a minimal effect." I would propose that the 83 dBA standards was only an intermediate goal and that new truck levels being reduced from 86 dBA prior to 1978 to 80 dBA after 1982 will have a significant effect on community noise levels. Maybe we should propose a standard of 70 dBA in 1990 with no interim goals. That would create a significant reduction in commuity noise levels!

I request that the International Harvester petition for withdrawal of the 1982 standard be summarily rejected by EPA and that Region X support this position in defense of this states' desire to reduce community noise levels through reduction of motor vehicle noise levels. If I may be of any assistance in countering this attack on a reasonable and needed regulation, please don't hesitate to contact me.

Sincerely,

David E. Saunders
Noise Section Head
Solid Waste Management
Division
Office of Land Programs

DES:drs

Enclosures

cc: Earl Tower
Douglas Costle
Charles Elkins

DEPARTMENT OF TRANSPORTATION
24 WOLCOTT HILL ROAD, P.O. DRAWER A
WETHERSFIELD, CONNECTICUT 06109

Office of the
Commissioner

An Equal Opportunity Employer

October 15, 1980

Mr. Alan Hicks
Chief Region 1 Noise Program
U.S. Environmental Protection Agcy.
J. F. Kennedy Federal Building
Boston, MA 02203

Dear Mr. Hicks:

Thank you for the opportunity to comment on the petition by International Harvester to withdraw the 1982 noise standards for new trucks.

In Connecticut, the Department has an ambitious program to abate traffic noise from our highways through the construction of noise barriers. These barriers, in order to be effective, must be quite high and long and, therefore, are very expensive. A more rational and economical approach to abating vehicle noise is to reduce the noise at the source. Since trucks are the major sources of traffic noise, steps must be taken to reduce this noise.

Therefore, the Connecticut Department of Transportation wishes to oppose the petition to withdraw the 1982 noise standards.

Very truly yours,

Arthur B. Powers
Commissioner

cc: Stanley Pac, Commissioner
Department of Environmental Protection

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OFFICE BUILDING HARTFORD, CONNECTICUT 06115

October 16, 1980

Mr. Alan J. Hicks
Regional Noise Chief
Room 1903
JFK Building
Boston, MA 02203

Subject: 1982 EPA Truck Noise Standards

Dear Al:

I support the 1982 EPA noise standard of 80 dBA for new trucks and am opposed to efforts to reconsider or postpone implimentation of this standard.

It has been my experience in dealing with traffic noise problems that most of the complaints from people living near our major highways involve truck noise. The current EPA Medium and Heavy Trucks Noise Emission Standards represent, in my opinion, a fair and equitable means of beginning to deal with the problem. They should not be weakened.

Thank you for the opportunity to comment on this matter.

Yours truly,

Joseph B. Pulaski, P.E.
Director
Noise Control Unit

JBP:mv

Environmental Control
Division of
Environmental Engineering

i i Office Building
1 Missouri Avenue
Bismarck, North Dakota
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Dana K. Mount, P.E.
Director
(701)224-2348

North Dakota State

Department of Health

Joan G. Babbott, M.D
State Health Officer
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Gene A. Christianson, P
Chief
Environmental Contro
(701)224-2373

October 1, 1980

Mr. Larry Svoboda
Regional Noise Programs
U.S.E.P.A.
Region VIII
1860 Lincoln Street
Denver, Colorado 80295

Dear Larry:

As you requested, we have prepared a reply to the International Harvester Petition to Reconsider the 1982 Medium and Heavy Duty Truck Noise Emission Regulations.

As you know, we are in the process of conducting a physical noise survey of the State of North Dakota. Thus far, four (4) communities varying in population from about 2,000 to 45,000 have been surveyed. In each of these communities, vehicular traffic was monitored in addition to other sources. Over 6,000 vehicles have been measured, 373 of which were trucks over 10,000 pounds. The findings of the truck noise level portion of the survey are included on an attached page. An explanation of our findings is also attached.

In generalizing the survey activities, it is safe to say that in most cases traffic was found to be the dominant noise source. A significant contributor of traffic noise is truck noise. We have no way of calculating the quantitative effect of truck noise levels on the overall equivalent noise level for a particular site, area, or city. However, if the 20.7% that are in violation of the Proposed 80dBA limit for trucks were to reduce their levels of noise emission by 3dBA (or more), the effect on the overall equivalent noise level would be noticeable.

Inquiries made to police personnel in several North Dakota cities regarding truck noise problems and complaints indicate that lowering the allowable noise limit on new trucks would, in general, benefit the citizens of their communities. For specific comments from city officials, please read the enclosed pages.

In view of the fact the economy of North Dakota is based primarily on agriculture and energy, both of which involve a good deal of truck traffic, the North Dakota State Noise Control Program fully supports the 1982 Medium and Heavy Duty Truck Noise Emission Regulations. Withdrawal of the regulation would have a negative effect upon the citizens of this State.

If you have any further requests or questions, please feel free to contact us.

Sincerely,

Stephen P. Charlton

Stephen P. Charlton, Env. Qual. Spec.
Noise Control Program

SPC:saj
Encl:

INTERNATIONAL HARVESTER

December 23, 1980

Mr. David G. Hawkins
Assistant Administrator
U. S. Environmental Protection Agency
Washington, D.C. 20460

Subject: Petition for Reconsideration - 1982 Medium and Heavy Truck Noise Emission Regulation.

Dear Mr. Hawkins:

A meeting was held on December 18, 1980 with combined EPA and IH staff representation to discuss and clarify the various aspects and questions raised in your November 18, 1980 letter to International Harvester Truck Group President Mr. J. Patrick Kaine. A copy of the presentation is attached for your information. During the meeting, several other requests were made for further clarification of the issues presented in our second submission to Mr. Costle dated October 2, 1980. The answers to these additional issues follow.

1. Additional Cost Items

It was noted in the December 18, 1980 meeting that the IH reported National Economic Impact values included only the vehicle purchase price increase to the consumer in constant 1981 dollars. As such, several additional cost items, as mentioned in the petition submissions and in the meeting, must be considered in an aggregate analysis of the economic effect.

(A) Transmission Cover Cost Effect

As noted in the December 18 meeting, our current analysis suggests an approximate additional $2.8 to $3.5 million dollar impact to the economy due to the added usage of transmission covers. This was not previously included in the EPA Background Document.

(B) Inflationary Impact

The National Economic Impact values were as previously noted in constant 1981 dollars. Therefore, the anticipated inflationary increases for the years 1982, 1983, and 1984

TRUCK GROUP ENGINEERING 2911 Meyer Road Fort Wayne, Indiana 46803 Phone 219 461-5128
Address reply to P.O. Box 1109 Fort Wayne, Indiana 46801

should be included. This would represent an additional accumulative impact of over $40 million for the three year period noted.

(C) Fuel Loss

The economic impact of the fuel lost due to weight increase of the 80 dB(A) components was likewise not included in our National Economic Impact values. As reported previously, IH estimated the fuel lost economic impact based on the sales weighted, 10 typical vehicle scenario to be $1,785,000 in 1982, $2,482,000 in 1983 and $2,973,100 in 1984. We now believe these values to be fairly conservative but necessary additions to an overall analysis. The fuel losses noted here do not include losses due to engine backpressure and air restriction increases.

(D) Increased Maintenance Costs

The initial EPA Background Document did not consider the transmission cover issues. As such, the EPA maintenance cost analysis did not account for this situation. International Harvester has determined that an additional service time of one-half hour is required to remove and replace the proposed transmission cover. This factor should be added to the complete analysis.

(E) Other Items

The following items will represent further economic increases due to the 80 dB(A) regulation but, due to time constraints, were not analyzed by IH.

(a) Increased Operational Costs due to the lost revenue effect of vehicle weight increase because of the 80 dB(A) abatement components.

(b) Lost performance costs due to engine back pressure and air restriction increases.

2. GVW Classifications

In reference to the vehicle classification differences between the EPA Background Document and the IH submissions, the following information is provided. This data classifies US Industry Retail Sales projection in a GVW category for the years 1982, 1983, and 1984.

Calendar Year
U.S. Industry Retail Sales Projections (000)

Classification	1982	1983	1984
GVW Class 8			
Heavy	145.9	166.2	184.7
Med XB Gas	3.0	2.8	2.3
MRD	15.1	18.8	22.3
Total	164.0	187.8	209.3
GVW Class 7			
Med XB Gas	26.6	24.9	20.3
MRD	53.8	66.8	79.1
Total	80.4	91.7	99.4
GVW Class 5,6			
Med XB Gas	29.5	27.7	22.6
MRD	6.8	8.5	10.0
Total	36.3	36.2	32.6

Key

MED = Medium Duty
XB = Except Bus
MRD = Mid Range Diesel

The above data excludes buses as noted. The previous data as described in our December 18 meeting did include buses based on the scenario that many of the items released for production in the base truck models would also be included in the bus packages. The above data is a calendar year analysis; whereas, the previously presented data was based on our corporate fiscal year.

3. Component Cost Breakdown

The following analysis represents an approximate breakdown of the various components of the IH cost per unit values presented in our October 8, 1980 submission.

Percentage Analysis
83 dB(A) to 80 dB(A)
10 Typical Vehicle Scenario

	Med. Duty Gas	Med. Duty Diesel	Heavy Duty Diesel
Reported Cost/Unit	$120	$360	$515
Cost Component:			
(a) Engine	---	21%	8%
(b) Fan Clutch	64%	---	4%
(c) Sump Covers	---	17%	29%
(d) Exhaust	11%	9%	13%
(e) Shielding	25%	38%	15%
(f) Transmissions	---	15%	31%
Total	100%	100%	100%

4. Deadlines

As noted in our December 18th meeting, the next critical commitment date is February 1st 1980. After February 1, tooling commitments will be made to our suppliers to ensure adequate lead time for production. If an affirmative decision is made prior to February 1, 1980 to withdraw the 1982 80 dB(A) regulation, the deferred costs to International Harvester are estimated to be $6,520,000. These costs include tooling expenditures, engineering costs, manufacturing start up expenses and obsolescence factors for both the Truck and Engine Divisions of International Harvester. In addition, an affirmative response to our petition will avoid significant consumer cost increases in an already severely overburdened economy.

We believe the above information, that was presented in our combined staff meeting of December 18, has effectively answered your questions relative to our second submission. We thank you for the opportunity to meet with your staff and are confident an affirmative answer to our petition will be expeditiously forthcoming.

F. L. Krall
Manager, Technical Legislation
International Harvester Company
(219/4616623)

hr

cc: Henry Thomas, EPA

Attachment

INTERNATIONAL HARVESTER

PETITION FOR RECONSIDERATION, TITLE 40 CODE OF FEDERAL REGULATIONS CHAPTER 1, PART 205, TRANSPORT EQUIPMENT, NOISE EMISSION CONTROLS, MEDIUM AND HEAVY TRUCKS

ENVIRONMENTAL PROTECTION AGENCY

INTERNATIONAL HARVESTER COMPANY

MEETING FOR CLARIFICATION OF IH SUBMISSION TWO

DECEMBER 18, 1980

TRUCK ENGINEERING CENTER - FORT WAYNE, INDIANA

TRUCK GROUP ENGINEERING 2911 Mayer Road Fort Wayne, Indiana 46803 Phone 219 461-5126
Address reply to P.O. Box 1109 Fort Wayne, Indiana 46801

OVERVIEW OF EPA REQUEST

ITEMS 1 THRU 5	COST ISSUES
ITEM 6	TRANS. COVERS
ITEMS 7 THRU 10	ENGINE ISSUES

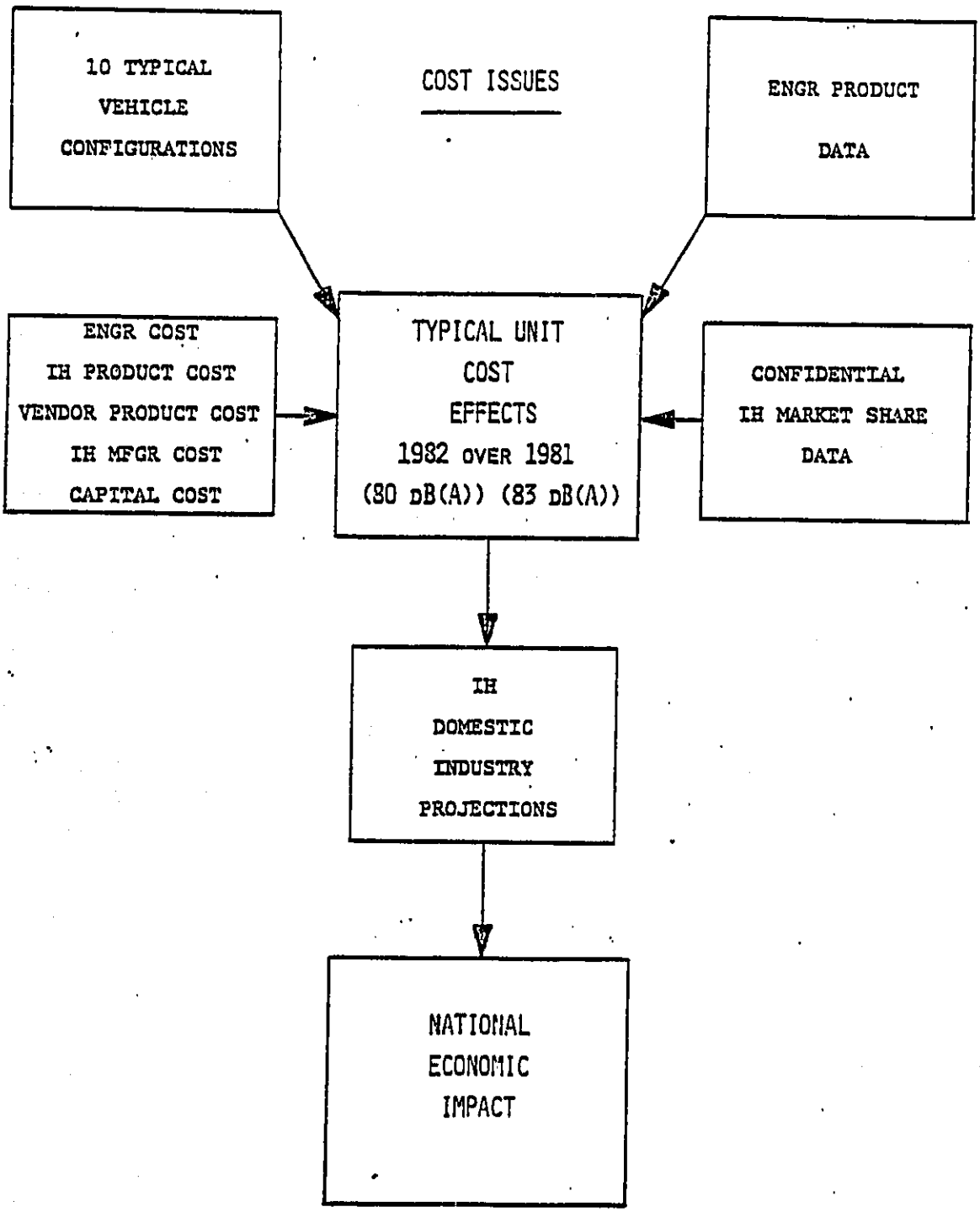
80 dB(A) PROGRAM STATUS

(REF. HAWKINS LETTER TO KAINE
11/18/80)

82 NOISE PROGRAM STATUS

MANDATORY DATE	JAN., 1982
IH VOLUME PRODUCTION	NOV., 1981
PILOT VEHICLE PRODUCTION	SEPT., 1981
PURCHASE ORDERS COMPLETE	MAY, 1981
PURCHASE ORDERS START	FEB., 1981

PURCHASING PROCESSING
MANUFACTURING PROCESSING
SPECIFICATIONS RELEASE
ENGINEERING DRAWING RELEASE
IH ENGINEERING TEST DEVELOPMENT
VENDOR ENGINEERING TEST DEVELOPMENT


10 TYPICAL VEHICLE CONFIGURATIONS
COST ISSUES
ENGR PRODUCT DATA
ENGR COST
IH PRODUCT COST
VENDOR PRODUCT COST
IH MFGR COST
CAPITAL COST
TYPICAL UNIT COST EFFECTS
1982 OVER 1981
(80 dB(A)) (83 dB(A))
CONFIDENTIAL IH MARKET SHARE DATA
IH DOMESTIC INDUSTRY PROJECTIONS
NATIONAL ECONOMIC IMPACT

TYPICAL VEHICLE CONFIGURATIONS

MEDIUM DUTY GASOLINE

(1)	S-Series	IH V-345/V-392 Engine

MEDIUM DUTY DIESEL

(2)	S-Series	CAT 3208T
(3)	S-Series	IH DT-466

HEAVY DUTY DIESEL

(4)	S-Series	Cummins NTC 350
(5)	S-Series	DDA 6V92 TTA
(6)	S-Series	CAT 3406
(7)	CO T/S	Cummins NTC 300
(8)	CO T/S	DDA 8V-92TTA
(9)	Paystar	Cummins NTC 230
(10)	Conv T/S	Cummins NTC 400

VEHICLE SELECTION CRITERIA

(1) MARKET PENETRATION
   (A) OVER 50% REPRESENTATION

(2) COMBINATION VARIETY
   (A) ENGINE VENDORS (IH, DDA, CUMMINS, CAT)
   (B) CHASSIS CONFIGURATIONS
      (I) CO, CONV, OFF-HIGHWAY, ON-HIGHWAY
      (II) DIESEL/GAS
      (III) MEDIUM/HEAVY

(3) AVAILABLE PRODUCT INFO
   (A) TESTS CPT
   (B) DETAIL SPECS AVAIL

(4) VENDOR COST INFO AVAILABILITY

ENGINEERING PRODUCT DATA
(CHANGES FOR 80 dB(A))

ENGINES

(A) SIDE BLOCK SHIELDS
(B) SUMP COVERS
(C) VALVE COVER INSULATION
(D) ENGINE BLOCK STIFFENING
(E) PISTON CHANGES
(F) OIL PAN INSULATOR GASKETS
(G) TURBOCHARGING - MEDIUM DUTY DIESELS
(H) ENGINE ELIMINATIONS

EXHAUST SYSTEM

(A) MUFFLERS
(B) EXHAUST PIPES 4" TO 5"
(C) SUPER TAIL PIPES
(D) "Y" ADAPTERS - LARGE T/C ENGINES
(E) RESONATORS
(F) DUAL EXHAUST STANDARD - LARGE ENGINES

ABSORPTION DEVICES AND BARRIERS

(A) CAB/SPLASH SHIELD EXTENSIONS
(B) CAB/SPLASH SHIELD ADDITIONS
(C) CAB/SPLASH SHIELD INSULATION
(D) HOOD INSULATION
(E) FRAME TO SUMP COVER ENCLOSURES

ENGINEERING PRODUCT DATA
(CHANGES FOR 80 dB(A))

TRANSMISSIONS

(A) NEW QUIET TRANSMISSIONS

(B) TRANSMISSION COVERS (NOT INCL. IN PRODUCT COSTS)

MISCELLANEOUS

(A) ALTERNATOR FAN QUIETING

(B) DAMPED PROP SHAFT

TYPICAL UNIT COST EFFECT

MEDIUM DUTY GASOLINE	$120/VEHICLE
MEDIUM DUTY DIESEL	$360/VEHICLE
HEAVY DUTY DIESEL	$515/VEHICLE

1. VEHICLE PURCHASE PRICE INCREASE ONLY.
2. 1982 80 dB(A) OVER 1981 83 dB(A) VEHICLE.
3. DOES NOT INCL. INCR. OPERATING/MAINTENANCE COST.
4. COSTS AMORTIZED OVER 3-YEAR PERIOD.
5. ALL COSTS EXCEPT CAPITAL EXPENSES IN 1981 DOLLARS.
6. CAPITAL EXPENSE INFLATED TO ANNUAL RATE OF 12%.

DOMESTIC INDUSTRY

RETAIL SALES PROJECTIONS

Year	Vehicle Configuration		
	MD Gas	MD Diesel	HD Diesel
1982	89260	82540	137500
1983	74710	98190	163300
1984	62600	118500	185200

INDUSTRY RETAIL SALES

FORECAST BASIS

- ECONOMETRIC ANALYSIS
- DATA BASE: CHASE ECONOMETRICS
  LONG TERM OUTLOOK (JAN., 1980)

KEY GROWTH RATES

	77-79	80-84	80-89
REAL GNP	4.0%	2.7%	2.6%
INVESTMENT, EQUIPMENT	7.5%	3.3%	3.3%
INVESTMENT, STRUCTURES	7.7%	4.3%	4.6%
WPI REFINED PETROLEUM	18.0%	22.6%	15.0%
WPI INDUSTRY COMMODITIES	9.0%	9.3%	7.7%

NATIONAL ECONOMIC IMPACT

TYPICAL IH PER UNIT COST X INDUSTRY PROJECTION

CONFIGURATION	1982	1983	1984
M.D. GAS ($120/UNIT)	$ 10,711,200	$ 8,965,200	$ 7,512,000
M.D. DIESEL ($360/UNIT)	$ 29,714,400	$ 35,348,400	$ 42,660,000
H.D. DIESEL ($515/UNIT)	$ 70,812,500	$ 84,099,500	$ 95,378,000
TOTAL INDUSTRY IMPACT	$111,238,100	$128,413,000	$145,550,000

COSTS REFLECT VEHICLE PURCHASE PRICE INCREASE ONLY.

'83 AND '84 COSTS WERE NOT INFLATED OVER '82.

ADDITIONAL COST ITEMS NOT INCLUDED IN NATIONAL ECONOMIC IMPACT VALUES

- Increased Maintenance Expense
- Increased Operational Costs (Lost Revenue)
- Lost performance Costs due to Back Pressure/Air Restriction Increase
- Increased Warranty Expense
- Transmission Cover Cost Effect
- Fuel Loss Expense
- Inflation Adjustments for 1983 and 1984

FUEL ANALYSIS

YEAR	GALLONS OF FUEL LOST	ECONOMIC IMPACT
1982	889,100	$1,785,000
1983	1,076,400	$2,482,000
1984	1,187,560	$2,973,100

(1) INCLUDES FUEL LOST DUE TO INCR: WEIGHT OF 80 dB(A) PACKAGE OVER 83 dB(A) PACKAGE.

(2) DOES NOT INCLUDE:

(A) LOST REVENUE OPERATING COST.

(B) POSSIBLE PERFORMANCE LOSS DUE TO INCREASED BACK PRESSURE/AIR RESTRICTION.

FUEL LOSS

ANALYSIS BASIS - 10 TYPICAL VEHICLES

WEIGHT INCR. X EPA LOSS IN FUEL PER POUND X

MILES PER YEAR X NO. VEHICLES = GALLONS LOST PER YEAR

A. WEIGHT INCR. PER VEHICLE
   (1) 12# GASOLINE
   (2) 25.4# MEDIUM AND HEAVY DIESEL (SALES WEIGHTED)

B. EPA LOSS IN FUEL PER POUND INCR. IN WEIGHT
   (1) GASOLINE 3.25×10^{-6}
   (2) DIESEL 1.77×10^{-6}

C. MILES PER YEAR
   DEPT. OF TRANSPORTATION DATA
   CLASS 3-6 19791 MILES/YEAR
   CLASS 7 22558 MILES/YEAR
   CLASS 8 119239 MILES/YEAR

D. NO. OF VEHICLES
   - INDUSTRY PROJECTED SALES

FUEL COST

GALLONS LOST PER YEAR X COST PER GALLON

- COST PER GALLON -

YEAR	GAS	DIESEL
1982	$2.10	$2.00
1983	$2.40	$2.30
1984	$2.60	$2.50

(MODIFIED TREND EXTRAPOLATIONS USING EPA CAFE DATA)

TRANSMISSION COVER ISSUES

- PRIMARILY A FULLER/CLARK PROBLEM
- BEST DATA TO DATE SUGGESTS:
  - (A) 16% MEDIUM DUTY GAS
  - (B) 3% MEDIUM DUTY DIESEL
  - (C) 6% HEAVY DUTY DIESEL
- BASED ON ABOVE DATA THAT WOULD RELATE TO AN INDUSTRY QUANTITY OF PERHAPS 20000 TO 25000 COVERS
- COST PER UNIT $140
- NATIONAL COST EFFECT $2.8 TO $3.5 MILLION

ENGINE DIVISION

EXPENDITURE

QUESTION #7
$1,580,000

A. RESEARCH

B. DEVELOPMENT

C. DESIGN

D. TOOLING

END PRODUCT COST INCREASE WAS INCLUDED AS PART OF TYPICAL VEHICLE COST ANALYSIS.

NATURALLY ASPIRATED DIESEL ENGINES
DISPLACED
DUE TO
80 dB(A) REGULATION

Engine	IH Annual Projected Units
Medium Duty	
IH 9.0L	14,000
CAT 3208	1,500
Heavy Duty	
DDA 6-71N	800
NH 230	200
INTERNATIONAL HARVESTER TOTAL	16,500

ENGINE ELIMINATIONS FROM IH PRODUCTS

ENGINE	IH APPROX. ANNUAL QTY
CUMMINS KTA 525,600	100
CAT 3408	50 TO 100
POTENTIAL IH 9.0L	14000

WHY TURBOCHARGE?

PURPOSE:

To increase power level of a given displacement engine.

PRIME BENEFITS:

(A) High power to weight ratio

(B) Altitude Compensation

ADDITIONAL BENEFITS:

More efficient combustion process
(smooth combustion pressure rise)

(A) Exhaust emission advantage

(B) Noise abatement advantage

FUEL EFFICIENCY

N/A vs. T/C

FULL THROTTLE BSFC CURVE COMPARISONS

	Engine	Curve Differential
(A)	CAT 3208 and DDA 8.2L	0.6-4.4%
(B)	IH D466	within 2%

1. FOR SAME OPERATION AS N/A

   (A) Incr power will be used by operator w/resultant higher fuel consumption.

2. VEHICLE OPERATING CHARACTERISTICS

   (A) Turbocharging has max. effect at higher power levels.

   (B) Normal vehicle applications at part load conditions.

COMPUTER VEHICLE SIMULATION

ENGINE	CITY CYCLE	CITY/HWY CYCLE
DDA 8.2L N/A	8.07 MPG	8.40 MPG
DDA 8.2L T/C	8.05 MPG	8.36 MPG

(A) SINGLE AXLE VAN
(B) 96 FT^2 FRONTAL AREA
(C) 5 SPD TRANS.
(D) 5.83 AXLE RATIO
(E) RADIAL TIRES
(F) 27,000 GVW

----------CONCLUSION----------

ESSENTIALLY EQUIVALENT FUEL ECONOMY.

TURBOCHARGING

1982 NOISE vs. 1984 EXHAUST EMISSIONS

ENGINE	COMMENT
CAT 3208	- UNDEFINED - N/A MAY MEET 1984 EE STDS.
DDAD 8.2L	- N/A WILL MEET 1984 EE STDS.
DDAD 6-71	- N/A WOULD PROBABLY COMPLY W/1984 EE STDS.

QUESTIONS NOT ADDRESSED

1. COSTS 83 dB(A) REG VS. UNREGULATED.

2. IH MARKET PROJECTIONS.

3. WHAT HAS BEEN DONE TO COMPLY WITH THE 83 dB(A) REQUIREMENTS?

82 NOISE PROGRAM STATUS

MANDATORY DATE	JAN., 1982
IH VOLUME PRODUCTION	NOV., 1981
PILOT VEHICLE PRODUCTION	SEPT., 1981
PURCHASE ORDERS COMPLETE	MAY, 1981
PURCHASE ORDERS START	FEB., 1981

PURCHASING PROCESSING
MANUFACTURING PROCESSING
SPECIFICATIONS RELEASE
ENGINEERING DRAWING RELEASE
IH ENGINEERING TEST DEVELOPMENT
VENDOR ENGINEERING TEST DEVELOPMENT

Abbott

INTERNATIONAL HARVESTER

November 18, 1980

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

Dear Mr. Costle:

SUBJECT: Petition for Reconsideration 1982 Medium and Heavy Truck Noise Emission Regulation

In his absence, Mr. J. Patrick Kaine, President of our Truck Group, has asked that I submit the International Harvester Community Noise Benefit Analysis to you.

This analysis supports International Harvester's contention that the 1982 80 dB(A) Standard will provide at best only an incidental noise reduction benefit to society.

Since the current 83 dB(A) regulation has significantly reduced community noise levels, any further reductions would be inflationary and would entail substantial fuel economy penalties that will not only affect the industry and the ultimate purchasers of our products but also every American who purchases goods that have been transported by the trucking industry.

In consideration of all the cost and benefit factors noted in our three submissions to you, we again strongly urge you to expeditiously withdraw the 1982 Noise Emission Regulation for Medium and Heavy Trucks.

Yours very truly,

L. A. Abbott
Vice President
Technical Services

lw
cc: See attached list.

TRUCK GROUP ENGINEERING 2911 Meyer Road Fort Wayne, Indiana 46803 Phone 219 461-5128
Address reply to P.O. Box 1128 Fort Wayne, Indiana 46801

Copies to:

Mr. Neil Goldschmidt, Secretary of Transportation
Mr. James T. McIntyre, Director, Office of Management and Budget
Mr. Alfred E. Kahn, Chairman, Council on Wage and Price Stability
Mr. Stuart E. Eizenstat, Assistant to the President, Domestic Policy Staff
Mr. Philip M. Klutznick, Secretary of Commerce

INTERNATIONAL HARVESTER

November 18, 1980

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

Dear Mr. Costle:

SUBJECT: PETITION FOR RECONSIDERATION, TITLE 40 CODE OF FEDERAL REGULATIONS CHAPTER 1, PART 205 TRANSPORT EQUIPMENT, NOISE EMISSION CONTROLS, MEDIUM AND HEAVY TRUCKS

As noted in our prior petition submissions (September 2, 1980 and October 2, 1980) for reconsideration and revision of Section 205.52(a) of the Noise Emission Controls Regulations for Medium and Heavy Trucks, International Harvester Company (IH) hereby submits our Community Noise Benefit Analysis and Discussion.

As a result of this benefit analysis, International Harvester is further convinced that the 1982 80 dB(A) Standard provides only incidental benefits to a very small segment of the population.

BENEFIT ANALYSIS

Under contract to the Motor Vehicle Manufacturers Association (MVMA) since late 1977, the Battelle Columbus Laboratories

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have developed a National Traffic Noise Model, which is similar in concept to the Environmental Protection Agency model used to calculate the benefits of proposed regulations.

International Harvester is, therefore, using the Battelle National Traffic Model Analysis as a basis for our discussion of community benefits. A brief description of the Battelle National Traffic Noise Exposure Model used in this discussion is included in Appendix A.

The Battelle analysis utilized actual test input data obtained from a vehicle fleet composed of various manufacturers' vehicles. Included were medium duty gas and diesel, heavy duty diesel, straight trucks and tractors, and 6 thru 18 wheeled vehicles. Data were taken from vehicles conforming to the 83 dB(A) Standard, then again, after modification to an 80 dB(A) regulated level. The data were accumulated under five speed conditions from 10 mph to 55 mph with acceleration, deceleration, cruise and idle modes considered.

Output data from the Battelle model are in the form of National Exposure Curves defining population exposed versus the average equivalent noise level during a 24-hour period as defined in terms of L_{dn}.

Exhibits I and II define the National Noise Exposure for all medium and heavy duty trucks assuming the total population was composed of all bias rib tires (Exhibit I) or all bias lug tires (Exhibit II). Other similar data were generated for radial rib and lug tires.

In consideration of the above noted exposure curves and the national tire mix population, Exhibit III was generated showing a direct comparison in benefits between the 83 dB(A) Standard and the 80 dB(A) Standard.

From our analysis, International Harvester finds that in excess of 9 million people will be impacted by the 80 dB(A) Standard at L_{dn} levels equal to or greater than 55 dB(A). Since nine million people represent only 4% of the nation's population and this 4% will only receive a daily average benefit of 0.6 dB(A), in our view, this is an insignificant and imperceptible amount.

This analysis represents an ultraconservative estimate in that the EPA's most quoted baseline limit of $L_{dn} \geq 55$ dB(A) is in itself a very conservative low end value that includes a built-in margin of 5 dB(A) to 7 dB(A) below a level of "significant complaint" community reaction. In addition, the analysis assumes that the "effect" of an 80 dB(A)

Standard would be immediate. Realistically, this would not be the case since the total national fleet replacement with vehicles produced after January 1, 1982 would not occur for approximately 25 years based on EPA data from Table B-2 in Appendix B of the 1976 Background Document. If the average national cost level of the 80 dB(A) Standard (as defined in our submission of October 2, 1980) were factored into this analysis, the result would be a national expenditure in excess of three billion dollars to obtain a 0.6 dB(A) average daily exposure reduction for 4% of the current population, twenty-six years from now.

This is quite a significant expenditure for such an insignificant benefit especially in view of the fact that under everyday conditions, a 1.0 dB(A) change in level is likely to be the minimum detectable by the human ear. Other studies have noted that as high as a 5 dB(A) change is required before the majority of the populace can differentiate a significant change in traffic noise levels. The results of this analysis show that after a massive national dollar expenditure, the noise benefit will at best be only marginally perceived by a small percentage of the population.

To supply additional information, International Harvester made a sales-weighted, sound level analysis of our total truck product line for the year 1979. From this analysis, which

was based on nearly 1800 individual test evaluations, we find the average sales-weighted level of all IH medium and heavy trucks produced in the year 1979 to be 80.5 dB(A).

The additional inflationary burdens and fuel efficiency losses to gain the added margin required for a "not-to-exceed" 80 dB(A) requirement is not justified, particularly in today's already overstressed economy.

In light of the foregoing benefit analysis, International Harvester is convinced that a current reassessment of the conditions under which the 80 dB(A) Standard was initially justified, does demonstrate that its imposition is unwarranted and that the Standard should be withdrawn.

Very truly yours,

F. L. Krall
Manager
Technical Legislation
(219/461-6623)

lw
Attachments

APPENDIX A

The Battelle, Columbus Laboratories National Traffic Noise Exposure Model Based Upon L_{dn}

Battelle has developed a national roadway traffic noise model (LDNNEM), which is similar in concept to the model summarized in a draft report obtained from EPA. It calculates exposure in terms of the total number of people that are expected to be exposed to roadway noise in excess of some specified level. The noise exposure quantifier employed is L_{dn}, the average day-night weighted level in dB(A). LDNNEM is useful in calculations that parallel the ones used by EPA for the evaluation of proposed regulations.

LDNNEM considers the noise from traffic to be attributable to as many as 14 different vehicle types, each operating in 4 different modes (acceleration, deceleration, cruise, idle) in one of 5 different speed ranges. The noise characteristics of any certain vehicle type is thus defined by sixteen numbers, each of which specifies the noise level of a single vehicle at a standard reference distance of 50 feet. There are five noise levels associated with acceleration (one for each speed range). Likewise, there are five noise levels associated with deceleration and five with cruise. There is a single level associated with idle.

The vehicles are assumed to be point sources with no directional noise emission characteristics. They are positioned upon

straight lanes which define their trajectories. The number of lanes and their spacing is defined and six different road types are under consideration. The road types are (1) interstates, (2) other freeways, (3) major arterials, (4) minor arterials, (5) collectors, and (6) local streets. The number of lanes defined for each road type is four except for collectors and local streets, which have only two. The lane spacing is 12 feet center-to-center except for interstates whose spacing is 15 feet. No medians were assumed.

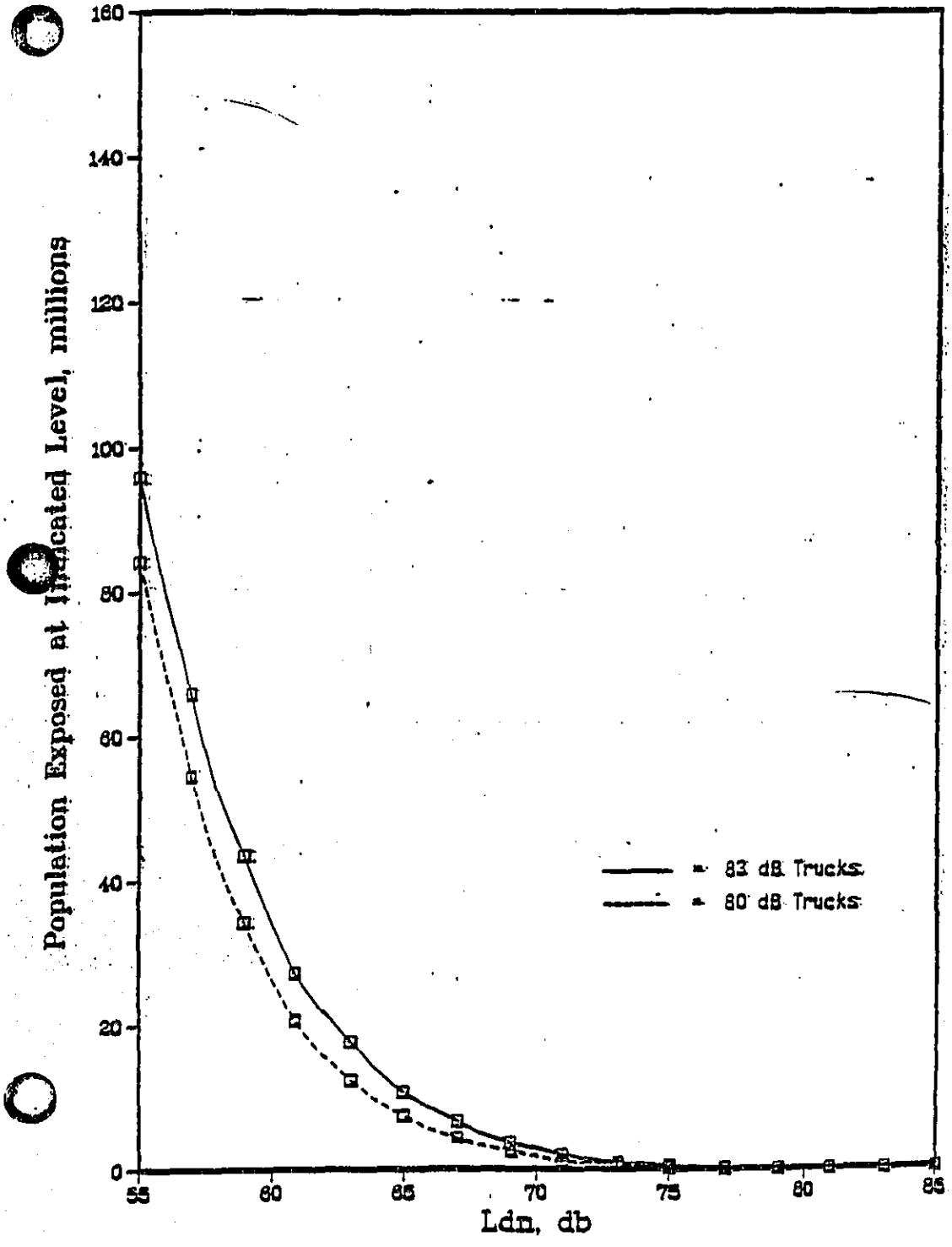
The various roadway types pass through places characterized by one of 9 place sizes, ranging from large cities to rural areas. Each place type has associated with it 4 different population densities typical of the given place size. There are, therefore, 60,480 different fundamental computations that must be performed in the course of a single national noise exposure calculation.

Like the EPA model, LDNNEM assumes that "clear zones" exist between roadways and populated areas. No one is in the clear zones; thus the greatest noise exposures experienced by the population of a given characteristic place size/road type area are experienced by persons at the boundary of the clear zone. The noise level at the boundary of the clear zone is determined by the noise emitted by the traffic and by the rate of attenuation through the clear zone. In both the EPA model and LDNNEM,

the clear zone depths and attenuation rates are input parameters and are not constrained to be identical in every case.

EXHIBIT I

National Exposure from Traffic with Bias Rib Truck Tires



National Exposure from Traffic with Bias Lug Truck Tires

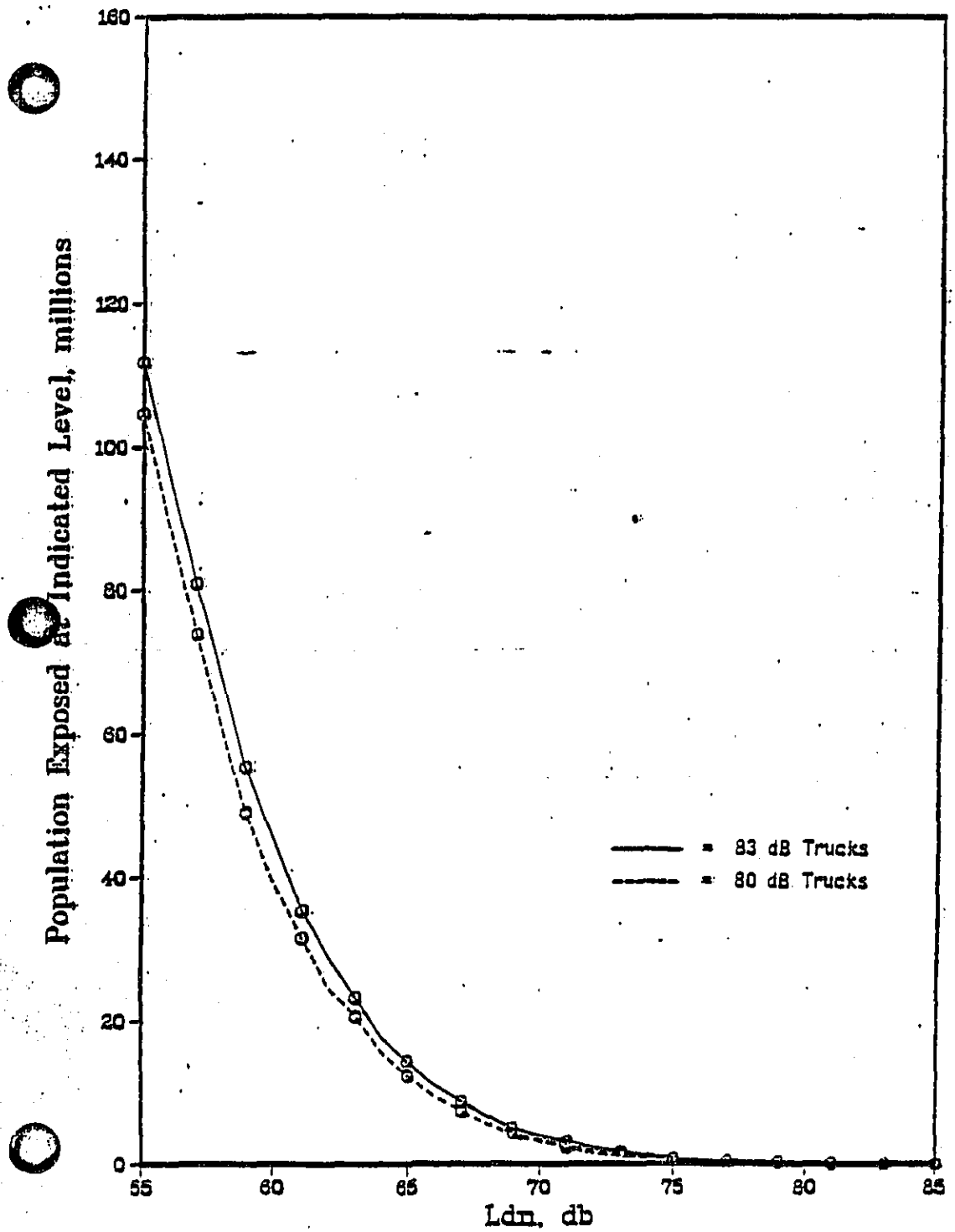
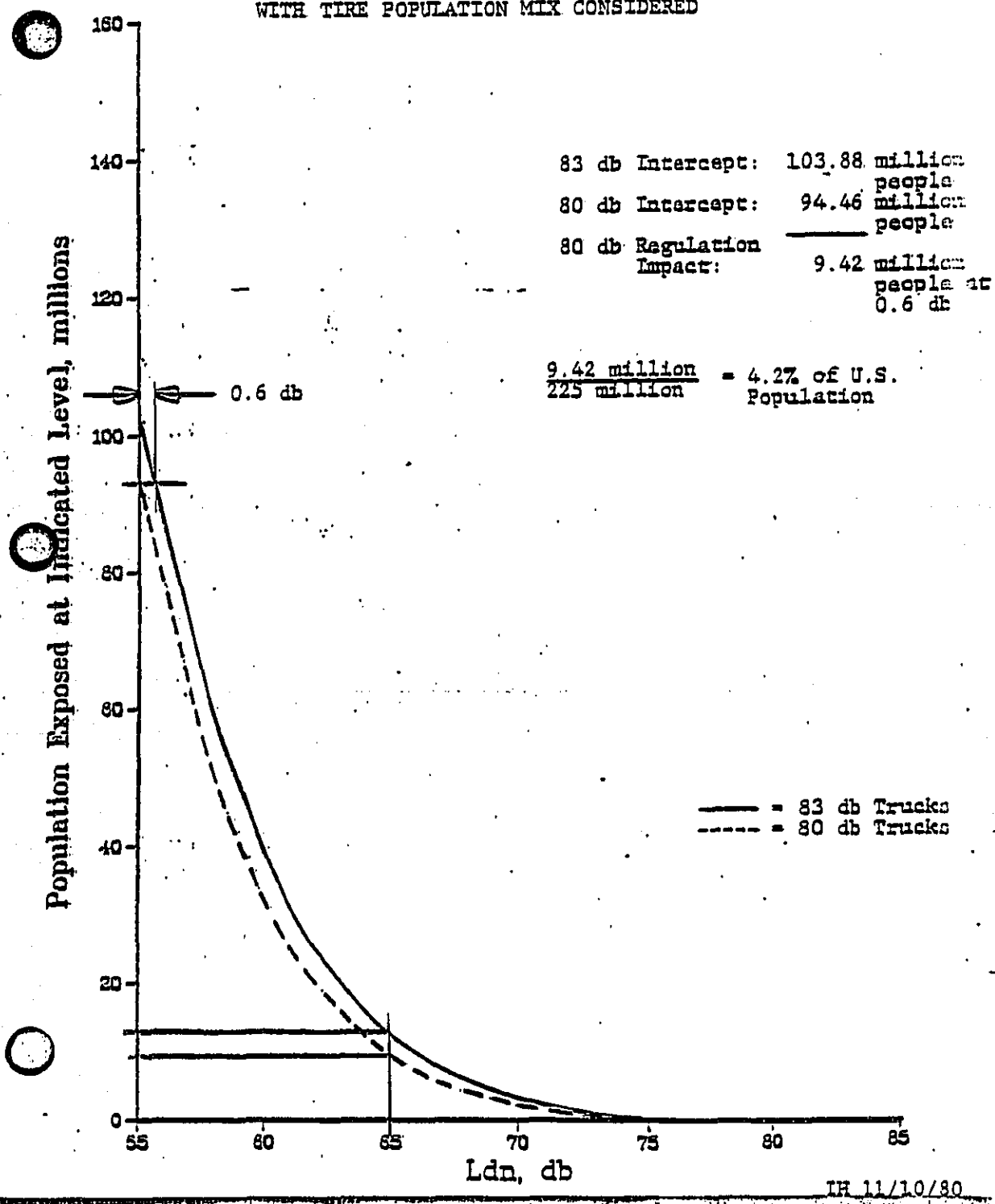


EXHIBIT III

NATIONAL EXPOSURE FROM TRAFFIC
WITH TIRE POPULATION MIX CONSIDERED



IH 11/10/80

T. Barry

Signed by D. M. 11/18/80
sent to Kaine

Faxed 11/20
to D.M.

Mr. J. Patrick Kaine
President, Truck Group
International Harvester
Corporation
P.O. Box 1109
Fort Wayne, Indiana 46801

Dear Mr. Kaine:

Mr. Costle has received your analysis dated October 2, 1980 in support of your initial petition dated September 2, 1980. Our response of October 3, 1980, to your initial submission was mailed before we received your latest submission which was hand delivered to EPA on October 8. As I promised in our October 3 letter, we intend to be responsive to your request for an expedited review of your petition. As was also discussed, I would like to hear from you regarding any deadlines you may be facing for making production decisions and the costs attendant to postponing or later changing those decisions.

In addition, clarification of several aspects of your analysis would be helpful in expediting our review of your petition. Our initial review of your October 2 submission has resulted in identification of what appear to be gaps in the data supporting several of your major contentions. These apparent gaps make it difficult for us to respond meaningfully to your submission. Therefore, we request the following data to allow us to expedite our review of your petition:

1. On page 11 of your submission you have estimated the incremental cost of the 80 dB standard by truck category. Please explain how these cost figures were derived.

2. Please explain your estimated cost impacts of the 80 dB regulation given on page 12. Do these figures include operating and maintenance costs? Are they for the new truck fleet or the total regulated truck fleet in the specified year? Over what period is the increased purchase price of the truck (due to noise abatement treatments) amortized?

3. You have estimated the cost of the 80 dB standard but have not told us your cost to meet the current 83 dB standard. We would like to know exactly what has been done to comply with the 83 dB requirement, and then what additional efforts would be required to meet the 80 dB level. It is not clear from your submission whether your estimates are for the cost increment entailed in reducing levels from 83 dB to 80 dB, or whether your estimates are for the total cost to meet an 80 dB level over the "no regulation" scenario. Accordingly, please provide us with your estimates of the total cost differential to truck purchasers of:

(a) an 83 dB truck as compared to an unregulated truck;
(b) an 80 dB truck as compared to an unregulated truck, and
(c) an 80 dB truck as compared to an 83 dB truck.

Please break the total costs out by fuel costs, maintenance costs, and truck purchase costs for each of the four truck categories (medium gas, heavy gas, medium diesel and heavy diesel), and explain the inputs and methodology by which these numbers were derived.

4. What sales projections (for IH and for the total industry) for each of the four truck categories (medium gas, heavy gas, medium diesel, and heavy diesel) were used in making your cost estimates for 1982 through 1984? What was the basis for these sales projections?

5. In making your cost estimates, did you use constant year dollars? If not, what inflation factors were assumed? Please specify what year dollars are used in each case and how those dollars differ from the 1975 dollars used in EPA's "Background Document for Medium and Heavy Truck Noise Regulations."

6. What percentage of your projected truck sales for each of the four truck categories will require transmission case covers to meet the 80 dB standard. What is the projected cost of those covers for each of the four truck categories?

7. In Item C, IH speaks of "expenditures for research and development, design of new systems and components, product tooling, and increased end product cost." Later in Item C, IH states it anticipates an expenditure of $1,580,000. Is this expenditure for the aforementioned items? What is meant by an expenditure for "increased end product cost"?

8. What is your estimate of IH increased sales of turbocharged medium duty diesels due to the 80 dB standard?

9. What is your estimate of the increased fuel savings due to turbocharging medium diesel engines?

10. Will any of the medium duty diesels requiring turbocharging to meet the 80 dB noise requirement not require turbocharging to meet the 1984 air emission standards? If so, how many?

Our final response to your petition will await our review of the information requested above and the community noise impact analysis that you originally stated you would provide by November 7, 1980.

Sincerely,

2nd page as changed by
D. H. 11/17/80

David G. Hawkins
Assistant Administrator
for Air, Noise and Radiation

INTERNATIONAL HARVESTER

October 2, 1980

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

Dear Mr. Costle:

SUBJECT: PETITION FOR RECONSIDERATION, TITLE 40 CODE OF FEDERAL REGULATIONS CHAPTER 1, PART 205 TRANSPORT EQUIPMENT, NOISE EMISSION CONTROLS, MEDIUM AND HEAVY TRUCKS

As noted in our initial petition submission dated September 2, 1980, for reconsideration and revision of Section 205.52(a) of the NOISE EMISSION CONTROLS REGULATIONS FOR MEDIUM AND HEAVY TRUCKS, International Harvester Company (IH) hereby submits our detailed analysis in support of the six enumerated items noted in the said petition. Additionally, several other items of prime concern are discussed.

Item 1: Engine Fan Clutches

As previously stated, IH contends that it is improper for EPA to include fuel savings, resulting from the usage of fan clutches, as part of the 1982 Noise Regulation cost/benefit justification.

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This contention was previously presented to EPA in 1975 by IH noting "current production figures and sales trends show that fan clutch usage is increasing rapidly due to fuel savings alone."

The EPA response to our contention in August of 1975 stated, "Furthermore, this agency has not received information from manufacturers of fan clutches or medium and heavy trucks that would confirm your (IH) statement... Such a statement has been repeatedly made by the truck manufacturing industry but without substantive data. In fact, exactly the opposite is true."

Contrary to the above 1975 EPA claim, current projected usage trend analysis of variable fan clutches shows 100 percent usage by mid-year 1981, <u>six months prior</u> to the initiation of the 1982 regulation. Exhibit 1 displays the variable fan clutch usage by year since 1974 including a least squares curve fit trend line projected to 100% usage (mid-year 1981). This data was derived from the Joint Government/Industry Voluntary Truck and Bus Fuel Economy Improvement Program data and dramatically supports the past and current IH contention that <u>fan clutch usage must not be considered</u> in any way in the benefit analysis of the 1982 Noise Regulation.

<u>Item 2: Medium Duty Diesel Market</u>

In Item 2 of our petition, we related information taken from the EPA Background Document referencing the dramatic shift

from gasoline power to diesel power due to the demand for more fuel efficient vehicles. In the Background Document, it was assumed by EPA that in 1982 the medium duty market would be approximately 99% gasoline vehicles and 1% diesel. Current IH industry projections for these markets show an approximate 50/50 split between gas and diesel for 1982.

It was also assumed by EPA that medium duty diesels would bear the highest cost of compliance per vehicle. In terms of the IH market share, we have found this to be only partially true. In our "typical" vehicle cost analysis, which is discussed in Item B on page 11, the consumer cost of a medium duty diesel vehicle is shown to be less than a heavy duty diesel but 3 times greater than a gasoline powered vehicle. As noted, this situation results from the IH sales-weighted selection of "typical" IH produced vehicles and may not be "typical" of the medium duty diesel vehicle industry as a whole. Because of the engine turbocharging issues as discussed in Item C on page 12, the additional consumer cost of many medium duty diesel vehicles as a result of the 80 dB(A) regulation, will greatly exceed that of the heavy duty vehicle. To this extent the cost issues presented in Item B are conservative.

The conflicts noted above cast further doubt as to the validity of the published EPA 1976 analyses used to justify the 80 dB(A) regulation.

Items 3 and 4: Interest Rates and Inflation

As discussed in the petition, EPA has acknowledged in their 1976 Background Document that the trucking industry is particularly sensitive to high interest rates. "The ability to obtain loans is directly related to the financial strength of a particular company as well as access to money markets... Because of the relatively low rates of return in trucking, the industry is particularly sensitive to high interest rates...It is generally accepted that a small company may not be able to absorb costs as readily as a large one. Small trucking companies (including owner-operators) tend to have poorer credit ratings, less sophisticated accounting practices, and pay higher prices for fuels and parts...Many trucking companies were operating very close to break-even in 1974 and 1975."

With the above acknowledged by EPA, the regulations, in which the 80 dB(A) requirement is included, were promulgated.

In late 1975, a period coincident with the EPA Background Document, the interest rate charged for medium and heavy trucks through credit institutions was 9%. Today that rate is 14%. On September 25, 1980, the Federal Reserve announced a full percentage point increase in the discount rate, an action that is likely to push interest rates even higher throughout the economy.

The interest rates of today are 5 percentage points higher with the potential of increasing even more than when the EPA analysis of the impact of the regulation on trucking companies was made.

Recognizing the time value of money, if the IH recently established average, sales-weighted industry cost increase of the vehicle for noise abatement components to meet the 80 dB(A) Regulation were compared at a 9% (1975) interest rate to a current 14% interest rate, the economic impact of only this in itself would be sizable. Assuming a conservative 3-year write-off period, the economic impact of simply the difference in interest rates would amount to the following:

Year	Economic Impact Due to Interest Rate Changes From 1975 to 1980
1982	$11,904,957
1983	$13,740,494
1984	$15,582,402

(Assumes a constant 14% interest rate for the years 1982, 1983 and 1984 vs. a constant 9% interest rate for 1975/1976)

In addition to this, due to the compounding effects of inflation, a medium/heavy truck will cost 61% more than it did when the EPA analysis was made in the 1975/1976 period. A $40,000 truck in 1975 would cost $64,400 today strictly due to inflationary increases alone. International Harvester believes that these

facts also further amplify the negative impact and lack of EPA justification of the 80 dB(A) regulation.

Item 5: Fuel Losses

In determining the average increases in fuel costs as a result of the regulation, the 1976 EPA Background Document, Table 6-13, showed fuel prices of $.50 per gallon for gasoline and $.30 per gallon for diesel fuel based on 1973 information. A July 2, 1980, EPA issued letter cites that "The Department of Energy has determined the fuel cost which must be used on all 1981 model year fuel economy labels. For 1981 model year, the fuel cost to be used is $1.55/gallon (gasoline) and $1.45/gallon (diesel fuel)." This represents a 210% cost increase for gasoline and a 383% increase for diesel fuel above that which EPA used in its analysis to determine the detrimental fuel loss effects of the regulation. This factor alone reflects considerable doubt on the validity of that EPA analysis.

International Harvester has made its analysis of the fuel loss effects of the 80 dB(A) regulation by estimating the weight increases of typical vehicles equipped with noise abatement effects necessitated by the regulation. In our analysis, we find the sales volume weighted increases to be 12 pounds for a medium duty gasoline vehicle and 25.4 pounds for a medium/heavy diesel vehicle with a range from 12 pounds to 126 pounds per vehicle.

Based on estimated fuel costs and projected industry volumes for the 1982, 1983 and 1984 periods, and the above increase in vehicle weights due to the 80 dB(A) regulation, we have defined the following:

FUEL PENALTY AS A RESULT OF THE 80 dB(A) REGULATION

Year	Gallons of Fuel Lost	Economic Impact
1982	889,100	$1,785,000
1983	1,076,400	$2,482,000
1984	1,187,560	$2,973,100

No attempt was made to determine increased owner operating costs as a result of lost revenue due to the weight increases, nor were the losses of possible increased engine backpressure and air intake restriction considered.

If this information is presented on a per vehicle basis, as did EPA in their original analysis, the effect does not appear overly significant; but when total sales volume is considered as noted above, the fuel loss in gallons and the economic impact to the economy in dollars is extremely significant.

It is interesting to note that if the energy content in the fuel that will be expended as a result of the 80 dB(A) regulation is used more constructively in the conversion to electrical power for residential use, a city of 10,600 people can be provided electrical power for the whole year of 1982. The following chart indicates city size in relation to electrical power that could be provided during one year:

Year	City Population
1982	10,600
1983	12,600
1984	14,000

(This information is based on the use of appropriate energy efficiency losses in the conversion processes and average nation-wide residential kilowatt-hour usage per year.)

Item 6: Transmission Issues

In the Background Document, EPA stated that transmission noise levels for medium and heavy trucks are 70 dB(A) or below; and therefore, few truck transmissions will require noise treatment.

As previously mentioned, IH strongly disagrees with this statement in that the majority of the transmissions used by IH in 1982 are being redesigned by our vendors in order to meet the requirements of the 80 dB(A) regulation.

Additionally, several suppliers are now formulating plans and procedures for quality auditing transmission sound levels to ensure, on a production basis, they do not surpass the IH established "not-to-exceed" levels. This is again an added auditing requirement that has not been previously needed for compliance to the 83 dB(A) level.

One transmission supplier has recently tested six different models of their product in vehicles at the IH Noise Test

Facility. From this analysis, one transmission model will likely be discontinued; two others have exceeded the maximum permissible noise limit established by IH, and the remaining three were found satisfactory. The two models that have exceeded the permissible limit, will require transmission case noise abatement covers, as perhaps will several other transmissions of various manufacturers depending on the driveline considerations chosen in the particular vehicle vocation.

In regard to the increased serviceability factor involved with transmission covers, IH has determined that transmission servicing time will be increased by one-half (½) hour for removal and replacement of the proposed cover design. The consumer cost increase attributable to the use of transmission covers will not be defined until total usage has been determined through continued test analysis and has not been included in the "typical" cost figures of Item B, page 11.

From the above discussion, it is evident the EPA analysis was remiss in not considering the significant economic impact of the transmission issue.

In discussions with our major transmission suppliers, it is apparent that as a result of the 80 dB(A) regulation, the vehicle will be equipped with a more quiet transmission that requires added labor content to produce. The durability of the

transmission cannot be classified as improved, nor has the useful life been significantly extended. Therefore, the 80 dB(A) regulation will require a higher cost, quieter transmission that for all intents and purposes will have the same useful life as the transmission being produced today. The quiet transmission program in itself has consumed both financial and human resources that might have been better utilized to extend the life of the transmission or reduce the cost of it.

In addition to the six above itemized elements of the petition, the following considerations reinforce the IH contention that the 80 dB(A) regulation is not justified under current conditions.

A. COWPS Analysis

The original Council on Wage and Price Stability (COWPS) economic statement of May 9, 1975 noted that "The findings of this study evaluating the EPA proposed regulations strongly indicate a lack of economic justification for the 80 dB(A)...standards... ...indications are that the noise standards should be no lower than 83 dB(A). ...the additional benefits are negative and less than the additional costs. Consequently, the social return per dollar spent is not maximized at these lower levels."

Subsequent to the May 9, 1975 document, COWPS "received additional data indicating that the estimates we used perhaps were overly conservative..." As a result of this, a revised analysis was made on July 8, 1975 with the conclusion, "It has been found that the economic justification for the 80 dB(A) standard is even more suspect than our original analysis indicated."

The above 1975 COWPS analysis included the fuel savings attributable to the use of fan clutches as did the EPA analysis. Since fan clutches are projected to be used on 100% of all medium and heavy trucks six months prior to the initiation of the 1982 Regulation (and therefore must not be considered in the analysis) little monetary benefit can exist to justify the monetary expenditure for noise abatement effects to comply with the 1982 80 dB(A) regulation.

B. Consumer Costs

International Harvester has projected the additional consumer product-cost effect resulting from the inclusion of the vehicle noise abatement equipment necessary to comply with the 1982 80 dB(A) standard. Using currently available test development information of vehicle needs for compliance, IH has selected 10 "typical" vehicle combinations from our medium and heavy truck line-up. These 10 typical vehicles represent over 50% of our 1979 model year usage and include medium duty gas and diesel, Conventional and CO heavy duty diesels and heavy duty on/off highway vehicles. From this typical vehicle analysis, the consumer can be expected to pay an additional $515.00 for a heavy duty diesel vehicle, $360.00 for a medium duty diesel vehicle, and $120.00 for a medium duty gasoline vehicle due to the more stringent 80 dB(A) requirement. In consideration of the projected U.S. industry, retail sales volumes of medium and heavy duty trucks, this

would represent an impact to the economy of $111,240,000 in 1982; $128,400,000 in 1983; and $145,550,000 in 1984.

It should be again noted that the cost per vehicle classifications are sales weighted to IH volumes and may be higher for other competitive manufacturers, particularly in the medium duty diesel markets. The engine turbocharging requirement, to be addressed in Item C below, will increase the consumer purchase price of a medium duty vehicle from $360 per unit to approximately $1400 per unit as a result of the 80 dB(A) regulation. It is, therefore, evident that the industry economic impact per year (of 111 million dollars in 1982, etc.) is conservative.

C. Engine Considerations

The effort by International Harvester Engine Division to bring our line of medium duty truck engines into compliance with the EPA 1982 noise regulation involves sizable expenditures for research and development, design of new systems and components, product tooling and increased end product cost. In addition, the modification to the engines will add weight and reduce serviceability. Further, at least one engine family may not be controllable to the required noise level within the bounds of practical structure and economic considerations and may have to be removed from production, with a loss to IH of an

anticipated production volume of 8000 engines per year. For the 80 dB(A) regulation, International Harvester anticipates an expenditure of approximately $1,580,000. It is assumed that Cummins, Caterpillar, and Detroit Diesel Allison Engine Division (DDA) expenditures will be similar if not more.

As noted in several previous sections, due to the 80 dB(A) regulation, many vehicle customers will no longer have the option of purchasing a naturally aspirated engine. Some manufacturers will turbocharge their engines; others will not due to structural considerations as in the case of one IH engine and several DDA engines. IH has noted the potential loss of 8000 engines per year, that presumably will force the customer to turbocharged engines. DDA has noted the necessity to turbocharge 5000 engines per year, and Caterpillar will turbocharge the 3208 engine. Due to the fact that these engines are in some instances options to the others in many medium duty vehicle product lines, the economic impact of forced turbocharging due to the 80 dB(A) regulation cannot be determined at this time with certainty. What is certain, though, is that the customer, who would normally purchase a naturally aspirated medium duty diesel vehicle, will be forced to pay approximately $1400 per vehicle more as a result of the 80 dB(A) regulation.

Summarization of Comments

In the past four years since the EPA justification document was issued, of which the 80 dB(A) regulation is a part, dynamic economic and fuel-related conditions have made a dramatic negative impact on our economy and our industry in particular. IH has attempted in this document to delineate those areas relating to the 80 dB(A) regulation that, in our opinion, cast considerable doubt as to the current validity of the 1976 EPA justification.

Primary to the 80 dB(A) justification, was the inclusion of the fuel savings resulting from use of engine cooling fan clutches. IH believes we have effectively demonstrated, via Exhibit I, that fan clutch usage should in no regard be considered in the 80 dB(A) justification. This fact, in and of itself, will place the 1976 EPA marginally-justified 80 dB(A) regulation in an economically unrealistic state, and thereby is no longer justified by current standards.

Additionally, the EPA medium and heavy duty market mix analysis (gas/diesel) that was used as a basis for economic justification, was made invalid by the dramatic shift to more fuel efficient diesel engines.

Inflation and interest rates have risen to a point unforeseen in 1976.

Projected fuel costs for 1981, have risen over 200% for gasoline and 380% for diesel fuel from that used in the EPA analysis, and the upward spiral will continue.

Through production vehicle test evaluations, it has been shown that the EPA analysis was remiss in not considering the noise contributions of manual and automatic transmissions, which will provide a further negative economic impact as a result of the 80 dB(A) regulation.

The direct economic effect of the 80 dB(A) regulation is conservatively estimated by IH to be $111,240,000 in 1982 followed by $128,400,000 in 1983 and $145,550,000 in 1984.

Elimination of naturally aspirated diesel engines will be another result of the 80 dB(A) regulation, which creates an additional economic detriment to the customer by forcing the purchase of a turbocharged engine.

In light of the foregoing information, International Harvester believes that a current reassessment of the conditions under which the 80 dB(A) regulation was intitially justified does demonstrate that the imposition of said regulation is unwarranted and should be withdrawn.

As previously noted in our September 2, 1980 petition, a community noise impact analysis is being undertaken and will

be filed with the Administrator within 30 days from the receipt of this submission.

Sincerely,

F. L. Krall
Manager, Technical Legislation
International Harvester Company
(219/461-6623)

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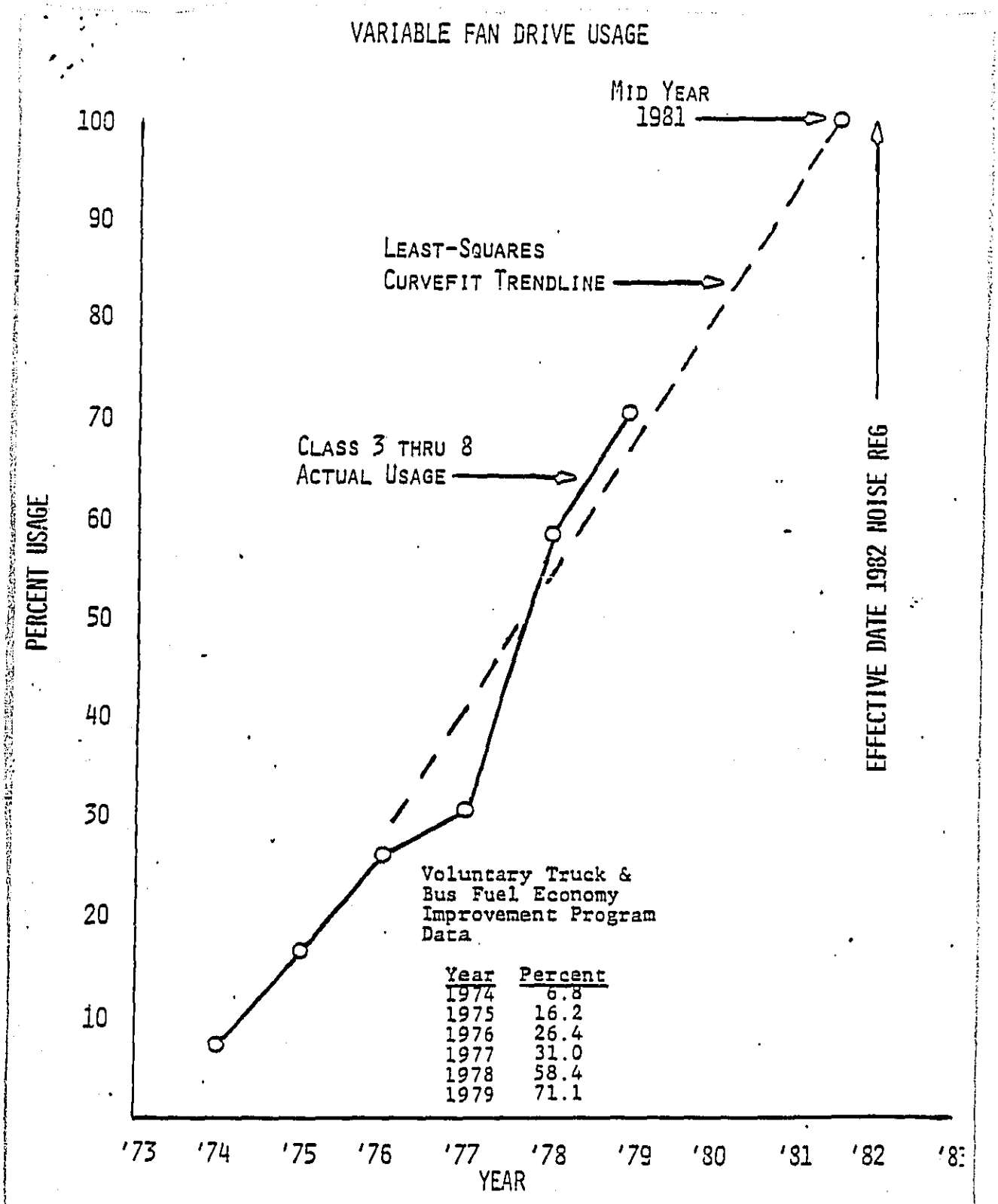
VARIABLE FAN DRIVE USAGE
MID YEAR
1981
LEAST-SQUARES
CURVEFIT TRENDLINE
CLASS 3 THRU 8
ACTUAL USAGE
EFFECTIVE DATE 1982 NOISE REG
PERCENT USAGE
100
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80
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'8
YEAR
Voluntary Truck &
Bus Fuel Economy
Improvement Program
Data
Year Percent
1974 6.8
1975 16.2
1976 26.4
1977 31.0
1978 58.4
1979 71.1

OCT 3 1980

OFFICE OF
AIR, NOISE, AND RADIATION

Mr. J. Patrick Kaine
President, Truck Group
International Harvester
Corporation
P.O. Box 1109
Fort Wayne, Indiana 46801

Dear Mr. Kaine:

Mr. Costle has asked me to respond to your September 2, 1980 petition for reconsideration of the 1976 noise emission regulation for medium and heavy trucks, whose second stage reduction requirement becomes effective on January 1, 1982.

Because you have asked us to move expeditiously in the review of your petition, I asked the Agency staff to conduct a quick review of the information contained in your petition. I recognize that you plan to send us additional information at a later time. We have not received this information, as you know, and therefore our review has been based on the September 2nd petition alone. [redacted] The enclosed staff paper summarizes the analysis on which this judgment is based. In light of these comments you may wish to reconsider whether you do have facts which would lead us to initiate rulemaking to revoke the 1982 standard. Of course, should you choose to provide us with additional information we will review it as expeditiously as possible.

I recognize that the timing of any subsequent review might prove to be a problem for you. However, this regulation was promulgated in 1976 and the information which you present in the petition appears to have been known for some time; indeed, it appears that some of the information could have been provided during the original rulemaking. Of course, there is no time limit on submitting information relative to an existing regulation, but certainly an earlier submission would have allowed time for full consideration of your concerns consistent with your production schedule for the 1982 model year trucks.

Nevertheless, in order that we might adjust our review schedule to accommodate your production schedule as much as possible, should you decide to submit further data, we would appreciate your also submitting at that time any new information regarding any deadlines you may be facing for ordering components from your component suppliers. Specifically, what are the commitment dates now scheduled for your various truck lines, manufacturing plants, or component suppliers to which you refer in your petition? (Such information may be provided by specific truck line commitment dates or by major categories of component commitment dates.) If these decisions or contracts were to be changed later or postponed, what, if any, cost would be incurred by International Harvester Corporation?

Unless we hear from you otherwise, we will assume that you intend to submit additional information and our final response to your petition will await our review of that information. I trust this information has been responsive to your request for expeditious review of your petition.

Sincerely yours,

— S —

David G. Hawkins
Assistant Administrator
for Air, Noise and Radiation

Enclosure

Analysis of the International Harvester
Petition for Reconsideration of the 1982
Medium and Heavy Truck Noise Emission Regulation

1. International Harvester (IH) assumed EPA included the fuel savings resulting from the usage of clutch fans as part of the justification for the 1982 noise emission standards for medium and heavy trucks. As stated in the preamble, (page 15544) [redacted] . . . (page 15542) EPA, in its cost analysis, has considered the two cases of (1) crediting all fuel savings to its regulation resulting from the application of demand controlled fans and (2) crediting no fuel savings to regulation, thus establishing an upper and lower bound for the costs associated with the regulation directly related to potential fuel savings. In the Background Document accompanying this regulation, the costs [redacted] However, the Administrator in making his decision on this regulation took into consideration the cost of the "worst case" situation, i.e., no fuel savings credit, and felt the rule was justified based on the benefits to be obtained from its implementation. [redacted] The Agency is required to set standards necessary to protect the public health and welfare, considering cost (among other items).* It is clear that the Administrator considered the cost of the 1982 standard both with and without a fuel savings

* is statutory scheme bears on the discussion of cost elsewhere in .nis paper. That the Administrator must consider these costs is clear; however, the statute does not require a standard justified by a cost/benefit analysis.

credit from clutch fans. IH's contention that the Administrator justified the imposition of the 1982 standard on the basis of fuel savings is therefore not valid.

2. Medium diesel trucks represented, in 1973, about one percent of the new truck sales as indicated in the Background Document on page 6-11. If the contention by IH is correct that the medium diesel sales will have increased by about 80 percent more than that projected for 1982 in the Background Document, then the actual segment of the truck market represented in 1982 by medium diesel trucks will be about two percent. Taking that percent increase in the medium diesel segment of the truck market into account would result in less than a $9 million increase in the projected annualized cost using the original economic analysis.

3. IH observes that EPA has acknowledged that the trucking industry is particularly sensitive to high interest rates. IH states that the rate of interest is considerably higher now than projected in 1975 and concludes that the burden to the trucking industry, especially to small independent owners, has been greatly increased.

EPA's acknowledgement of the

, on page A-7-5 of the Background Document for the Medium and Heavy Truck Regulation,

void a drain on truckers' cash resources,

The U.S. Congress has recently eased the Interstate Commerce Commission's regulatory constraints on rate increases for trucking services.

[redacted]

Also, a higher interest rate due to inflationary pressures does not, by itself, [redacted] Given no change in competitive positions, the increased cost in trucking services due to higher interest rates should not change firm profitabilities.

4. IH states that, since the annual rate of inflation has been much higher than anticipated, a current Present Value Analysis will be considerably higher than the 1975 predicted Present Value Analysis.

[redacted] Thereby, the same Present Value in constant dollars is obtained, regardless of the inflation rate.

If the Present Value were stated in terms of 1980 dollars, obviously, the absolute number would be greater. That does not mean, however, that this regulation has become relatively more costly to the nation, in terms of real resources expended, than was projected in 1975.

5. IH contends that increased fuel prices have increased significantly the cost of the truck regulation. Table 6-15 of the Background Document presents an estimate of the average annual cost of increased fuel usage due to

the 80 dB standard (if no credit for more efficient fans and fan clutches is considered):

Medium gasoline	-	$ 1 (per year per truck)
Heavy gasoline	-	2 "
Medium diesel	-	6 "
Heavy diesel	-	10 "

A tripling, or even quadrupling, of fuel costs will not cause the small amount of increased fuel consumption associated with noise abatement to represent more than a tiny fraction of total operating expenses. We have no reason at this time to believe that the fuel consumption assessments made in the Background Document are incorrect.

6. IH observes that EPA stated at the time of rulemaking that few truck transmissions will require noise treatment. IH states that, by contrast with EPA's statement, the majority of the manual transmissions that will be used by IH for 1982 are being redesigned to meet a 72 dB requirement that IH contends is needed to comply with the 1982 80 dB standard. IH also states that "with certain power train combinations, transmission noise levels will exceed 72 dB and therefore require transmission case covers." IH states that these costs were not included in EPA's analysis and that the transmission covers will increase the serviceability costs.

It is our understanding that widespread changes in transmission design are underway by several of the major transmission manufacturers. [redacted]

less expense than if dealt with as the sole forcing factor. Whether the transmission must be quieted for a truck to meet the 80 dB standard depends on the noise level of the transmission and on the level to which the other sources of noise, such as the engine fan and exhaust, are quieted. [redacted] transmissions greatly small. [redacted] and possibly meet with IH's transmission engineers to explore this matter further.

[redacted] By treatment of transmissions, as indicated on page 6-10 of the Background Document, EPA meant partial or full enclosure and the greater costs attendant to such treatments. Indeed, IH apparently finds that only in the case of "certain power train combinations" that transmission covers are required.

EPA recognizes that it cannot know the exact noise abatement treatment that will be employed on every power-train/truck configuration to be manufactured under a given regulation. Thus, in establishing the availability of technology as required under the Act, EPA assesses the noise treatment required on selected representative products across a range of power-train/truck configurations. We recognize that some configurations that manufacturers will choose to market will be more costly to quiet than EPA's projection of average cost, just as some configurations will be less costly. We also recognize that the manufacturers may not choose to quiet their products in the manner projected by EPA, presumably having found a less expensive and/or more efficient approach. Thus, unless manufacturers sub-

sequently demonstrate that certain technology is not adequate or that the average costs are significantly greater than that projected by EPA and are not reasonable. I remain satisfied with these aspects of the regulatory analysis. In particular, unless IH's average cost (in constant year dollars) to meet the 80 dB standard for its overall product line is sufficiently greater than that projected by EPA so as to be unreasonable, EPA does not find a basis in this issue for deleting the 80 dB standard.

Health and Welfare

IH states that it has previously been shown through Community Noise Benefit Analysis techniques that reduction in the standard for medium and heavy trucks below 83 dB will not result in a corresponding decrease in community noise levels.

In EPA's analysis of the health and welfare benefits at the time of final rulemaking, EPA projected a 12.4 percent reduction in traffic noise impact due to the 83 dB standard and an additive 8.2 percent reduction due to the 80 dB standard, a total 20.6 percent reduction even without noise reductions from non-truck vehicles. A more recent analysis, using an improved and more detailed approach, projects a total 27.3 percent reduction with 19.0 percent from the 83 dB level and an additive 8.3 percent reduction from the 80 dB standard. In terms of number of people impacted, EPA's current analysis also projects a greater reduction in the number of people adversely impacted by noise than did EPA's analysis at the time of rulemaking.

Trucks are the nation's greatest source of environmental noise. Traffic noise ranks as the number one noise problem in our urban areas and trucks contribute over half the noise due to traffic. EPA projects that by the

year 2000, nearly 31 million fewer persons will be exposed to traffic noise levels which adversely affect their health and welfare as a direct result of the medium and heavy truck noise regulation. Deleting the 80 dB standard would lower that reduction by over 9 million persons. The greatest relative benefits accrue to those citizens exposed to extremely high levels of traffic noise. The 83 dB standard will reduce those exposed to average day-night traffic noise levels exceeding 70 dB by about 4 million persons. The 80 dB standard will increase that reduction by an additional 2 million persons. Together, the 83 dB and 80 dB standard bring about a nearly 50 percent reduction in the number of people exposed to day-night levels exceeding 70 dB. EPA considers these reductions to be extremely significant. Also, without a further reduction below the 83 dB standard for trucks, reducing the levels of other sources of traffic noise would provide dramatically fewer benefits because of the otherwise masking and dominant effect of truck noise.

Thus, while it is true that because of the presence of other noise sources, each equal incremental reduction in the noise level of trucks, or any other major source of noise, will not give equal reductions in community noise levels (unless all other sources are equally reduced), or in the number of people adversely impacted by noise, it does not follow that those reductions are not necessary to protect the public health and welfare, in accord with the law we administer and which resulted in these regulations.

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9/4/80

INTERNATIONAL HARVESTER

J. PATRICK KAINE
President
Truck Group

September 2, 1980

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

Subject: Petition for Reconsideration -
1982 Medium & Heavy Truck Noise Emission Regulation

Dear Mr. Costle:

Attached to this letter is International Harvester's Petition for Reconsideration of the 1982 Noise Emission Regulation.

[redacted]
As such, the additional cost for vehicle noise abatement equipment necessary to comply with the 1982 standard, [redacted]

In consideration of the [redacted] and [redacted] experienced over the past four years since the EPA justification document was issued and in light of the fact that the [redacted] by EPA at that time, we believe that a reassessment of these conditions demonstrates that [redacted]

In view of the facts noted in the petition, we urge that you expeditiously withdraw the 1982 Noise Emission Regulation for Medium and Heavy Trucks. An early decision in this regard will allow the truck engineering community to redeploy its people and assets to other productive efforts.

Yours very truly,

J. P. Kaine

Copies to:
Mr. Neil Goldschmidt, Secretary, Department of Transportation
Mr. James T. McIntyre, Director, Office of Management and Budget
Mr. Alfred E. Kahn, Chairman, Council of Wage and Price Stability
Mr. Stuart E. Eizenstat, Assistant to the President, Domestic Policy Staff
Mr. Philip M. Klutzoick, Secretary, Department of Commerce

INTERNATIONAL HARVESTER

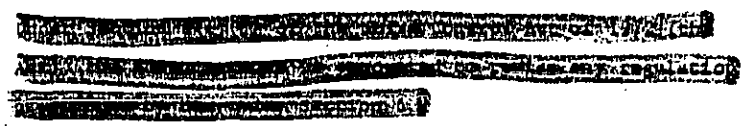
September 2, 1980

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

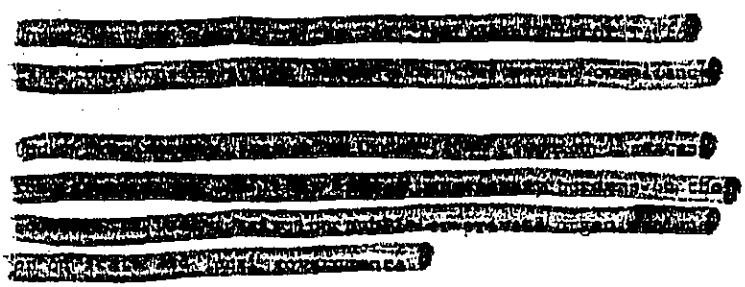
Dear Mr. Costle:

SUBJECT: PETITION FOR RECONSIDERATION, TITLE 40 CODE OF FEDERAL REGULATIONS CHAPTER 1, PART 205 TRANSPORT EQUIPMENT, NOISE EMISSION CONTROLS, MEDIUM AND HEAVY TRUCKS

International Harvester Company (IH) 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 codified in 40 CFR Section 205.52(a), which requires that vehicles manufactured after January 1, 1982 shall be designed, built and equipped so that they will not produce sound emissions in excess of 80 dB(A) (the 1982 standard).



The 1982 standard is part of such a regulation.



TRUCK DIVISION ENGINEERING 2911 Adams Road Fort Wayne, Indiana 46808
Address reply to P.O. Box 1108 Fort Wayne, Indiana 46801

[redacted]

In support of this position, IH cites the [redacted]

1. In the Environmental Protection Agency's (EPA) Background Document for Medium and Heavy Truck Noise Emission Regulations dated March 1976 (EPA-550/9-76-008), [redacted] IH contends that analysis of recent Department of Transportation published data demonstrates that [redacted] demanded by the customer as well as to comply with the current 83 dB(A) standard. Projected usage trend analysis shows [redacted] the effective date of the more stringent standards. It is, therefore, [redacted] An analysis using the 1975 EPA sales weighted data shows that the exclusion of the fuel saving effects of fan clutches results in a cost penalty of $562.00 per truck (1975 dollars) instead of the EPA estimate per truck average savings of $130.25 (1975 dollars).

2. In Table 6-7 of the same Background Document, EPA indicated [redacted]

[redacted] standard when compared to medium duty gas, heavy duty gas and heavy duty diesel. [redacted] EPA's forecast of 1982 sales for medium duty diesels is also underestimated by a similar percentage and [redacted]

3. EPA acknowledged in the Appendix to the Background Document at page A-7-5 that [redacted] now than projected in 1975 and [redacted] especially to the small independent owners, [redacted]

4. In the Background Document at page 7-7, EPA states that all dollars are adjusted to 1975 dollars. Since the annual rate of inflation has been much higher than anticipated, [redacted]

5. 1980 fuel prices have increased by more than 100% over the 1975 fuel prices used in the EPA analysis and [redacted]

[redacted] Projected fuel price increases will continue to compound this situation.

6. In the Background Document at page 6-10, EPA stated that transmission noise levels for medium and heavy trucks are 70 dB(A) or below and [redacted] IH has determined that to meet the 1982 standard, transmission noise levels may not exceed 72 dB(A) on a continuing production basis. To this extent, we agree with the EPA analysis; however, the majority of the manual transmissions that will be used by IH for 1982 are being redesigned by our vendors in order to meet the 72 dB(A) requirement. [redacted]

IH is in the process of finalizing a detailed analysis of the aforementioned items 1 through 6 and will file that analysis with the Administrator within thirty (30) days.

In regard to the benefits of the more stringent regulations, it has previously been shown that through Community Noise Benefit Analysis techniques, reduction in the standard for medium and

heavy duty [redacted]

To this end, IH will file its analysis of the community noise impact with the Administrator within sixty (60) days.

IH requests that the 1982 standard be withdrawn since it cannot be demonstrated that the imposition of the standard is cost justified and not an unnecessary burden on the economy, on individuals, on public and private organizations and on state and local governments.

IH further requests the Administrator's immediate attention to this petition since IH, like other truck and component manufacturers, is currently making major test and development expenditures in advance preparation for the more stringent regulation. In addition, the commitment date rapidly approaches where IH must contract with our component suppliers for material as well as to our manufacturing plants for facility appropriations.

Sincerely,

F. L. Krall
[redacted]
International Harvester Company
(219/461-6623)