INTERNATIONAL HARVESTER PETITIONS AND RELATED EPA/IN CORRESPONDENCE.
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 208) 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.
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) 557-7866.

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,

[Signature]

Henry E. Thomas
Director
Standards & Regulations Division

Enclosures
TUESDAY, APRIL 12, 1976

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 Docu-
ments developed in support of the pro-
posed and this regulation contains a
substantial portion of the information
which would otherwise be provided in
an Environmental Impact Statement.

3.2 Economies

3.2.1. A number of commenters indi-
cated that benefits below 83 dbA are not
cost effective.
The Act does not require that stand-
ards be set in terms of return on benefits for the costs incurred. The mandate to EPA in the
Noise Control Act is to set standards ne-
essary to protect public health and wel-
fare. While the benefits of the proposed
rules are substantial, the cost effectiveness of these rules based on an analysis
of regulatory options is not higher than indicated in public comments. The estimated uniform annualized costs for the regulation
are no more than 0.06% of the uniform
annualized revenues of the trucking in-

Based on assessment of the estimated increase in truck prices due to compliance with this
regulation, it has been estimated that to meet 83 dbA a 1.0% aver-
age increase in price would result. To meet 85 dbA a standard 1.5% average increase in price would result.

Regarding estimates of initial price in-
creases, the public comments in the doc-
umented data from the DOD Quiet Truck Program.

2. Changes in Operating Costs: The
Agency has estimated that the costs and
maintenance costs for trucks which comply with the reg-

3.2.2. A number of commenters felt
that EPA should not include fuel sav-
ings from fan clutches in estimating the
operating costs.

The issue has been raised on the basis
that due to rising fuel prices and in-
creased use of fuel resulting from their use, clutch fans may gain widespread acceptance in the truck market without the promotion of the 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 few years. Fuel savings should not, therefore, be totally ex-
cluded as a benefit of noise control reg-
ulation. "Fuel savings, however, are
accounted for in the development of the
year 2000 emission standards for heavy
;

4. Controlling Agency Response to

5. Discussion and Disposition of Su-

mulated声音

-0.06%

5. Discussion and Disposition of Su-

mulated声音

-0.06%

5. Discussion and Disposition of Su-

mulated声音

-0.06%

5. Discussion and Disposition of Su-

mulated声音

-0.06%
RULES AND REGULATIONS

6. Cost and Economic Impacts

The imposition of the annualized costs is estimated by the Agency to be $200 million when no credit for fuel savings, due to the installation of thermostatically controlled engines, is allowed.

The estimated cost is based on the fuel savings resulting from the use of these engine controls, which are credited to the fuel consumption account in accordance with the fuel economy credit system. For heavy vehicles, the credit is based on the average fuel consumption of the vehicle class.

The estimated cost of the regulation is $200 million, which is the cost of fuel savings resulting from the use of these engine controls. This cost is estimated to be $200 million, assuming that the fuel consumption of the vehicle class is the average fuel consumption of the vehicle class.

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

<table>
<thead>
<tr>
<th>Type of truck</th>
<th>Price increase</th>
<th>Parental increase</th>
<th>Price increase</th>
<th>Parental increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium, gasoline</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>Medium, diesel</td>
<td>$1,500</td>
<td>$1,500</td>
<td>$1,500</td>
<td>$1,500</td>
</tr>
<tr>
<td>Heavy, diesel</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Heavy, gas</td>
<td>$2,500</td>
<td>$2,500</td>
<td>$2,500</td>
<td>$2,500</td>
</tr>
</tbody>
</table>

7. Future Intent

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

As indicated in the EPA Identification of Major Sources of Noise Report, the principal candidates for future regulatory efforts are known. On May 20, 1975, the Agency identified the following pieces of surface transportation equipment as major sources of noise: buses and motorcycles (40 FR 2115). Regulatory development is well underway to establish national 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 all urban 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 (49 FR 21209, October 23, 1974) requiring newly manufactured medium and heavy trucks to maintain a specified noise emission level while operated by motor carriers engaged in interstate commerce.

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 (FR 39:35). 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 would be impractical to publish it in its entirety in the Federal Register. Copies may be obtained from the EPA Public Information Center (FM 214), Room 216E, Watergate Mall, 4th and M Streets NW, Washington, D.C. 20460.

Dated: March 31, 1975.

RUSSELL E. TRACY,
Administrator.

40 CFR CHAPTER 37

§ 37.1 General applicability.

§ 37.2 Definitions.

§ 37.3 Exemptions.

§ 37.4 Construction and monitoring.

§ 37.5 Other requirements.

§ 37.6 Petition for accountability.

§ 37.7 Enforcement.

§ 37.8 Liability.

§ 37.9 Administrative remedies.

§ 37.10 Judicial remedies.

§ 37.11 Implementation.

§ 37.12 Compliance and enforcement.

§ 37.13 installations.

§ 37.14 Exemptions.

§ 37.15 Petitions for rulemaking.

§ 37.16 Petitions for reconsideration.

§ 37.17 Petitions for stay.

§ 37.18 Petitions for rulemaking.
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 NVIA, Ford Motor Company, General Motors, International Harvester, FACCAR 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 GVR 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 community 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 Agency
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
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 implementation 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
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:
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. Castle 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...
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)

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

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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas</td>
<td>Diesel</td>
<td>Diesel</td>
</tr>
<tr>
<td>Reported Cost/Unit</td>
<td>$120</td>
<td>$360</td>
<td>$515</td>
</tr>
<tr>
<td>Cost Component:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Engine</td>
<td>---</td>
<td>21%</td>
<td>8%</td>
</tr>
<tr>
<td>(b) Fan Clutch</td>
<td>64%</td>
<td>---</td>
<td>4%</td>
</tr>
<tr>
<td>(c) Sump Covers</td>
<td>---</td>
<td>17%</td>
<td>29%</td>
</tr>
<tr>
<td>(d) Exhaust</td>
<td>11%</td>
<td>9%</td>
<td>13%</td>
</tr>
<tr>
<td>(e) Shielding</td>
<td>25%</td>
<td>38%</td>
<td>15%</td>
</tr>
<tr>
<td>(f) Transmissions</td>
<td>---</td>
<td>13%</td>
<td>31%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

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
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
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 KAIN 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

TEGRAL TEAM COST RESTRUCTURING DATA

TYPICAL UNIT COST EFFECTS 1982 over 1981 (80 dB(A)) (83 dB(A))

CONFIDENTIAL INDUSTRY MARKET SHARE DATA

IH DOMESTIC INDUSTRY PROJECTIONS

NATIONAL ECONOMIC IMPACT

ENG Cost
IH Product Cost
Vendor Product Cost
IH MFGR Cost
Capital Cost
## Typical Vehicle Configurations

<table>
<thead>
<tr>
<th>Medium Duty Gasoline</th>
<th>( \text{S-Series} )</th>
<th>IH V-345/V-392 Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) ( \text{S-Series} )</td>
<td>IH V-345/V-392 Engine</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medium Duty Diesel</th>
<th>( \text{S-Series} )</th>
<th>CAT 3208T</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) ( \text{S-Series} )</td>
<td>CAT 3208T</td>
<td></td>
</tr>
<tr>
<td>(3) ( \text{S-Series} )</td>
<td>IH DT-466</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heavy Duty Diesel</th>
<th>( \text{S-Series} )</th>
<th>Cummins NTC 350</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4) ( \text{S-Series} )</td>
<td>Cummins NTC 350</td>
<td></td>
</tr>
<tr>
<td>(5) ( \text{S-Series} )</td>
<td>DDA 6V92 TTA</td>
<td></td>
</tr>
<tr>
<td>(6) ( \text{S-Series} )</td>
<td>CAT 3406</td>
<td></td>
</tr>
<tr>
<td>(7) ( \text{CO T/S} )</td>
<td>Cummins NTC 300</td>
<td></td>
</tr>
<tr>
<td>(8) ( \text{CO T/S} )</td>
<td>DDA 8V-92TTA</td>
<td></td>
</tr>
<tr>
<td>(9) Paystar</td>
<td>Cummins NTC 230</td>
<td></td>
</tr>
<tr>
<td>(10) Conv T/S</td>
<td>Cummins NTC 400</td>
<td></td>
</tr>
</tbody>
</table>
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/SPASH SHIELD EXTENSIONS
(B) CAB/SPASH SHIELD ADDITIONS
(C) CAB/SPASH 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

<table>
<thead>
<tr>
<th>Year</th>
<th>MD Gas</th>
<th>MD Diesel</th>
<th>HD Diesel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>89260</td>
<td>82540</td>
<td>137500</td>
</tr>
<tr>
<td>1983</td>
<td>74710</td>
<td>98190</td>
<td>163300</td>
</tr>
<tr>
<td>1984</td>
<td>62600</td>
<td>118500</td>
<td>185200</td>
</tr>
</tbody>
</table>
INDUSTRY RETAIL SALES

FORECAST BASIS

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

KEY GROWTH RATES

<table>
<thead>
<tr>
<th></th>
<th>77-79</th>
<th>80-84</th>
<th>80-89</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL GNP</td>
<td>4.0%</td>
<td>2.7%</td>
<td>2.6%</td>
</tr>
<tr>
<td>INVESTMENT,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>7.5%</td>
<td>3.3%</td>
<td>3.3%</td>
</tr>
<tr>
<td>INVESTMENT,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRUCTURES</td>
<td>7.7%</td>
<td>4.3%</td>
<td>4.6%</td>
</tr>
<tr>
<td>WPI REFINED PETROLEUM</td>
<td>18.0%</td>
<td>22.6%</td>
<td>15.0%</td>
</tr>
<tr>
<td>WPI INDUSTRY COMMODITIES</td>
<td>9.0%</td>
<td>9.3%</td>
<td>7.7%</td>
</tr>
</tbody>
</table>
## NATIONAL ECONOMIC IMPACT

### TYPICAL IH PER UNIT COST X INDUSTRY PROJECTION

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

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Gallons of Fuel Lost</th>
<th>Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>889,100</td>
<td>$1,785,000</td>
</tr>
<tr>
<td>1983</td>
<td>1,076,400</td>
<td>$2,482,000</td>
</tr>
<tr>
<td>1984</td>
<td>1,187,560</td>
<td>$2,973,100</td>
</tr>
</tbody>
</table>

(1) Includes fuel lost due to increased 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

WEIGHTincr. 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 x 10^-6
   (2) DIESEL 1.77 x 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

<table>
<thead>
<tr>
<th>YEAR</th>
<th>GAS</th>
<th>DIESEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>$2.10</td>
<td>$2.00</td>
</tr>
<tr>
<td>1983</td>
<td>$2.40</td>
<td>$2.30</td>
</tr>
<tr>
<td>1984</td>
<td>$2.60</td>
<td>$2.50</td>
</tr>
</tbody>
</table>

(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

<table>
<thead>
<tr>
<th>Engine</th>
<th>IH Annual Projected Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium Duty</td>
<td></td>
</tr>
<tr>
<td>IH 9.0L</td>
<td>14,000</td>
</tr>
<tr>
<td>CAT 3208</td>
<td>1,500</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td></td>
</tr>
<tr>
<td>DDA 6-71N</td>
<td>800</td>
</tr>
<tr>
<td>NH 230</td>
<td>200</td>
</tr>
<tr>
<td>INTERNATIONAL HARVESTER TOTAL</td>
<td>16,500</td>
</tr>
<tr>
<td>Engine</td>
<td>IH Approx.</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Cummins KTA 525,600</td>
<td></td>
</tr>
<tr>
<td>CAT 3408</td>
<td></td>
</tr>
<tr>
<td>Potential IH 9.0L</td>
<td></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Engine</th>
<th>Curve Differential</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) CAT 3208 and DDA 8.2L</td>
<td>0.6-4.4%</td>
</tr>
<tr>
<td>(B) IH D466</td>
<td>WITHIN 2%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Engine</th>
<th>City Cycle</th>
<th>City/Hwy Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDA 8.2L N/A</td>
<td>8.07 MPG</td>
<td>8.40 MPG</td>
</tr>
<tr>
<td>DDA 8.2L T/C</td>
<td>8.05 MPG</td>
<td>8.36 MPG</td>
</tr>
</tbody>
</table>

(A) SINGLE AXLE VAN  
(B) 96 FT² 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

<table>
<thead>
<tr>
<th>Engine</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT 3208</td>
<td>UNDEFINED - N/A MAY MEET 1984 EE STDS.</td>
</tr>
<tr>
<td>DDAD 8.2L</td>
<td>N/A WILL MEET 1984 EE STDS.</td>
</tr>
<tr>
<td>DDAD 6-71</td>
<td>N/A WOULD PROBABLY COMPLY W/1984 EE STDS.</td>
</tr>
</tbody>
</table>
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
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

cc: See attached list.
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
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
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 Ldn.
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 Ldn 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 Ldn = 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 Ldn

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 Ln, 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 inter-
states 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 attenu-
ation 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

Population Exposed at Indicated Level, millions

Ldn, db

83 dB Trucks
80 dB Trucks
Population Exposed at Indicated Level, millions

National Exposure from Traffic with Bias Lug Truck Tires

- 83 dB Trucks
- 80 dB Trucks

Lden. db

55 60 65 70 75 80 85
EXHIBIT III
NATIONAL EXPOSURE FROM TRAFFIC
WITH THE POPULATION MIX CONSIDERED

83 db Intercept: 103.88 million people
80 db Intercept: 94.46 million people
80 db Regulation Impact: 9.42 million people at 0.6 db

9.42 million = 4.2% of U.S. Population
725 million Population

---

- --- = 83 db Trucks
- ---- = 80 db Trucks

Ldn, db
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,

David G. Hawkins
Assistant Administrator
for Air, Noise and Radiation
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 I, 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.
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, six months prior 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 fan clutch usage must not be considered in any way in the benefit analysis of the 1982 Noise Regulation.

Item 2: Medium Duty Diesel Market
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:

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic Impact Due to Interest Rate Changes From 1975 to 1980</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>$11,904,957</td>
</tr>
<tr>
<td>1983</td>
<td>$13,740,494</td>
</tr>
<tr>
<td>1984</td>
<td>$15,582,402</td>
</tr>
</tbody>
</table>

(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:

<table>
<thead>
<tr>
<th>Year</th>
<th>Gallons of Fuel Lost</th>
<th>Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>889,100</td>
<td>$1,785,000</td>
</tr>
<tr>
<td>1983</td>
<td>1,076,400</td>
<td>$2,482,000</td>
</tr>
<tr>
<td>1984</td>
<td>1,187,560</td>
<td>$2,973,100</td>
</tr>
</tbody>
</table>

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:
<table>
<thead>
<tr>
<th>Year</th>
<th>City Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>10,600</td>
</tr>
<tr>
<td>1983</td>
<td>12,600</td>
</tr>
<tr>
<td>1984</td>
<td>14,000</td>
</tr>
</tbody>
</table>

(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 $15.00 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 intitally 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)
VARIABLE FAN DRIVE USAGE

Least-Squares Curvefit Trendline

Class 3 thru 8 Actual Usage

Voluntary Truck & Bus Fuel Economy Improvement Program Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>6.8</td>
</tr>
<tr>
<td>1975</td>
<td>16.2</td>
</tr>
<tr>
<td>1976</td>
<td>26.4</td>
</tr>
<tr>
<td>1977</td>
<td>31.0</td>
</tr>
<tr>
<td>1978</td>
<td>58.4</td>
</tr>
<tr>
<td>1979</td>
<td>71.1</td>
</tr>
</tbody>
</table>
Mr. J. Patrick Kaine  
President, Truck Group  
International Harvester  
Corporation  
P.O. Box 1109  
Fort Wayne, Indiana 46801  

Dear Mr. Kaine:

Mr. Castle 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 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.

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 exs.
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 you advising in sufficient time regarding any problems you may be facing that could be addressed expediently and efficiently. 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,

[signature]

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

Closure
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) 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... 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. 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...
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 [insert citation], on page A-7-5 of the Background Document for the Medium and Heavy Truck Regulation, [insert citation], in the document states that the high rates will add a drain on truckers' cash resources, [insert citation] and reduce the potential for profit.
Also, a higher interest rate due to inflationary pressures does not, by itself, increase costs. 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.

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 dBA standard (with 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 '84 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.
whether the transmission must be quieted for a truck to meet the 80 dBA 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. Because the development of approaches to quiet their transmissions because the increased noise associated with them is unacceptable is expensive and cannot be achieved under a given regulation. We ascertain that these and possibly more worthwhile programs 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-
a 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 reduc-
tions 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
In 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.
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.

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

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

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
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 dBA (the 1982
standard).

The 1982 standard is part of such a regulation.
In support of this position, IH cites the following:

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), it is contended that analysis of recent Department of Transportation published data demonstrates that the use of clutch cabs can be demanded by the customer as well as to comply with the current 83 dB(A) standard. Projected usage trend analysis shows that the effective date of the more stringent standard is, therefore, 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 that...
EPA's forecast of 1982 sales for medium duty diesels is also underestimated by a similar percentage and especially to the small independent owners.

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, adjusted

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

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

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,

[Signature]

F. L. Keal

[Company Name]

(219/461-6623)