DOCKET NO. OPMO-0184
Item No. 20

CONFIDENTIAL ATTACHMENT NOT INCLUDED

INTERNATIONAL HARVESTER

June 13, 1984

II-96-01
II-A-973

Mr. Kenneth E. Feith
Director of Review
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Feith:

We are herewith providing the information requested in your April 12, 1984 letter to Mr. Lennox. Some of the information provided is considered proprietary to IH, and we are requesting that portion of our transmittal to be kept "Company Confidential" by EPA. In that regard, Attachment No. 1 contains the reasons certain of the answers need to be "Company Confidential". Attachment No. 2 includes those answers that may be publicly disclosed, and the last enclosure contains the information considered to be proprietary. Should you have any questions or need additional claims to warrant the requested confidentiality, please contact the writer.

We trust that this additional information better defines for the Agency the inter-relationship that exists between the identified future exhaust emission requirements and the 80 dB(A) noise requirement, both from a technical and a financial point of view.

The information further shows the financial savings that would accrue to IH and its customers from implementing the 80 dB(A) standard concurrently with future exhaust emission requirements, as opposed to an earlier date. It is significant to note, however, that a major portion of this saving would be lost if the noise standard were only to be delayed for some interim period but still be implemented prior to the upgraded exhaust emissions requirements for NOx and particulates.

We would like to elaborate on our answer to Question No. 6, which displays the noise levels measured during 1983 for routine audit testing of IH production vehicles. We firmly believe these data demonstrate that the overall noise level of trucks currently being manufactured to the 83 dB(A) level essentially satisfy the objectives intended by the 80 dB(A) standard at the time it was promulgated by EPA. You will note that 60% of the configurations tested are already below the 80 dB(A) level; in fact, some are as low as 77 dB(A).

File: Noise
Rec'd. 6/87

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

Even though the remaining 40% exceed the 80 dB(A) level, IH's overall sales weighted average is somewhat below 80 dB(A). However, it must be emphasized that compliance with a not-to-exceed 80 dB(A) limit is substantially more stringent than maintaining the average production levels mentioned above. This increased stringency of course accounts for the additional product design changes and related consumer price increases shown in the attached response.

Your letter also solicited comments on health and welfare effects that would result from the proposed delay. As you know, MVMA has been working on several studies and analyses to address this issue. We have taken part in that effort, and concur with MVMA comments to be filed with EPA. The latest findings and information indicate that minimal, if any, adverse impact will occur during the timeframe of an additional interim delay of the 1986 standard. It would appear that the reduction in community noise that EPA sought to bring about via the 80 dB(A) standard is already materializing as a result of current 83 dB(A) trucks being considerably quieter than was anticipated. This reduction has, in part, resulted from the trucking industry's rapid transition to use of radial tires for fuel economy improvement. Further, it is significant to note that the additional noise reduction already being realized is accruing at a much faster pace than the 80 dB(A) new truck standard would have yielded.

In summary, we hope this submittal satisfactorily answers your questions and, more importantly, that EPA will adopt the requested implementation schedule as soon as possible. Should you have any further questions or need for clarification, please contact this office.

Very truly yours,

Dean P. Stanley

Dean P. Stanley
Vice President
Engineering

CC: Mr. Donald Lennox

Attachments

ATTACHMENT NO. 1

REQUEST FOR CONFIDENTIAL TREATMENT

Our response to Question Nos. 4, 5, and 6 contain Confidential Business Information" and, as such, has been enclosed in a separate enclosure marked "COMPANY CONFIDENTIAL". Due to the confidential and proprietary nature of these materials, IH requests that they be given confidential treatment.

International Harvester Company:

A. Asserts that the material contained in the enclosure marked "COMPANY CONFIDENTIAL" is entitled to confidential treatment;

B. Has not waived or withdrawn that assertion; and,

C. Has maintained the information in confidence; the information cannot be readily obtained by others by legitimate means.

IH requests that this information not be disclosed to the public, both before and after introduction and until completion of the build of the applicable model year trucks, as such disclosure would be likely to cause substantial harm to IH's competitive position.

Since our competitors have access to public records they would, if this information were not held confidential, have knowledge of IH production estimates. Such knowledge, if used, can give a competitor an edge in marketing, and therefore increase his penetration in model classes at the expense of IH.

The uses to which such information would be put by a competitor would depend upon which manufacturer obtained the information. Conceivably, production schedules and types of components produced could be adjusted. With such an adjustment, pricing advantages could be realized, thereby making a competitor's truck more attractive than those produced by IH.

ATTACHMENT NO. 2

INTERNATIONAL HARVESTER'S (NON-PROPRIETARY) ANSWERS
TO QUESTION NOS. 1, 2, 3, 7, 8, AND 9

(REFERENCE MR. FEITH'S 04/12/84 LETTER TO MR. LENNOX)

QUESTION NO. 1
Please provide your technical assessment of the interrelationship of oxides of nitrogen and particulate exhaust emission controls to the engineering and design associated with the 80 dB(A) noise emission requirement for your trucks.

ANSWER
The reduction of oxides of nitrogen and particulate exhaust emissions will most likely be achieved by a combination of engine-related design changes and after-treatment of exhaust gases. Both of these items will have an effect on the noise emission of the engine and vehicle. The level of this impact is as yet unknown.

The engines affected by the proposed exhaust emission standards will most likely undergo combustion system redesign, more precise fuel and injection control and timing modifications. These types of changes in the past typically have had an impact on the noise level generated by the engine. Regardless of whether the engine noise level increases or decreases, engineering effort will be required to evaluate the impact and modify the engine and vehicle noise control package for optimal design. Without such an effort, the vehicle would either be above the regulated limit, or below the limit at an undue cost impact to the customer.

After-treatment to control particulates is at present an unresolved issue. Regardless of the type of system that is ultimately developed, the result will be a major modification to the vehicle exhaust system. The systems currently being investigated range from continuous oxidation systems that would require additional elements in the exhaust system to very sophisticated trap/regenerative systems that would require microcomputer-controlled regeneration control systems. Not only would the exhaust system itself be affected, but electrical systems and engine design would be affected as well. It should be noted that to date IH is unaware of any trap/oxidizer regeneration system suitable for in-service use in heavy duty vehicles. Also, many system unknowns exist such as exhaust backpressure levels, system physical size, system weight, special heat shielding requirements, noise level impact, etc.

The oxidation and trapping of particulates will require analysis of the noise emission effect of the new systems and their interaction with the engine. Based on that analysis, it will be necessary to test and redesign noise control packages to assure 80 dB(A) compliance consistent with minimizing the cost to the customer. Thus, a substantial portion of the effort expended to meet the 80 dB(A) level in 1986 will essentially be wasted effort in that it will have to be redone at the time the new emissions controlled engines are introduced.

QUESTION NO. 2

Please quantify the cost and economic benefits that you would expect to realize by combining the engineering and design of future exhaust emission controls with noise control features requisite to meeting the 80 dB(A) noise emission standard. The cost savings determinations should be independent of "effective date" considerations.

ANSWER

We believe our answer to Question No. 3 also answers this question.

QUESTION NO. 3

Please quantify to the extent possible, the potential cost benefits or disbenefits to your company that you would expect to realize from each of the following options concerning the effective date of the 80 dB(A) noise emission standard.

A. One-year deferral to January 1, 1987.
B. Two-year deferral to January 1, 1988.
C. Designating the effective date as the first day of the calendar year commensurate with the model year for which EPA's next set of emission standards for oxides of nitrogen and particulates are applicable.
D. Retain January 1, 1986 effective date.

Please translate the possible benefits or disbenefits in terms of vehicle cost or savings to purchaser.

ANSWER

The following will provide answers to above list of questions, but in reverse order, to facilitate a discussion in a chronological order of events as they would occur.

First, we will describe the program effort and financial expenditures required to bring our product line of medium and heavy truck models into compliance with the 80 dB(A) standard effective 01/01/86. The following list identifies primary vehicle design changes, some combination of which must be applied to all of our current 83 dB(A) production models:

1. Upgraded mufflers
2. Upgraded tailpipes
3. Engine belly pans
4. Frame to radiator shields
5. Underhood covers
6. Engine sump cover
7. Wheel well covers
8. Damped propshafts
9. Quieter alternators
10. Quieter transmissions

The cost to IH to implement the above necessary changes is approximately $6,500,000 (not including production piece price increases). The average per unit consumer price increase currently being projected for these product changes is:

Heavy Duty Models	Medium Models
$485.00	$350.00

Based on IH's projected sales, the annual customer price increase for the 80 dB(A) effects would be over $25,000,000. Because IH's Class VI through VIII market share is approximately 25%, the total industry's customer price increase would likely be over $100,000,000 per year. This figure represents the minimum dollar amount the trucking industry would save for each year the 80 dB(A) standard would be delayed pending introduction of the new exhaust emissions engines. The $100,000,000 savings per year, of course, does not include additional operating expense to the customer such as increased maintenance cost required to service the additional noise reduction systems.

How much of the noise reduction work done to meet the initial 1986 date would have to be redone when the new exhaust emission engines (with NOx and particulate trap technology) are introduced? As an update to our September 26, 1983 petition, it still is not possible to

accurately predict the degree of redesign that will be required. This is because our engine suppliers have not as yet provided design and performance parameters for their new engines being developed to meet the eventual standards for NOx and particulates.

Therefore, the best we can do at this time is to provide an estimated range for the amount of redesign of 1986 noise control modifications that will be necessary with the advent of the subsequent exhaust emission engines. As described below, we would estimate the extent of this redesign to range from a minimum of 25% to a possible 75% of the 1986 noise effects.

The lower range is based upon the assumption that particulate traps will be required. With a best-case scenario based upon presently-available information, all exhaust systems will have to be modified to accommodate these new systems. This change alone accounts for the minimum 25% ($1,625,000 penalty) redesign. However, it is quite likely that additional vehicle changes will be required to accommodate the modified engines and, as a result, cause a redesign of other noise reduction components over and above the exhaust system. We believe this upper range could be as high as 75% ($4,875,000 penalty).

Thus, the total cost of implementing the 80 dB(A) requirement will be substantially higher if it is made effective in 1986 and vehicles subsequently have to be redesigned when upgraded exhaust emission engines are introduced.

The two-phase implementation cost for IH production is estimated to be as much as $11,300,000. This will be reduced to $6,500,000 if delayed as requested herein. This $4,800,000 penalty is of course directly attributable to the additional redesign that would result from having to bring vehicles into compliance by 1986.

The above comments address the negative impact of a 1986 implementation versus one coinciding with a subsequent exhaust emission standard. In reply to Questions 3A and 3B, the implementation costs for either a one or two year delay would be slightly higher than shown for 1986. However, neither of these would be considered to be viable alternatives in that the same degree of redesign would be required as described above for the 1986 schedule. The net effect of each additional year of delay would essentially spread the same amount of fixed implementation cost across a smaller population of unit vehicles produced during the interim period.

Another aspect of delaying the 1986 standard that is important to IH is the lost opportunity cost to IH of the $6,500,000 expenditure required to implement the standard in 1986. In view of IH's continuing depressed financial condition, these resources are vitally needed for other purposes. They would be used to pursue not only resource-demanding business opportunities in trucks, but also in IH's other core businesses -- agricultural equipment and engines.

To illustrate, we would note that, even though considerable technological advances in truck design have occurred in recent years, we believe future marketplace demands will continue to accelerate. For the trucking industry to remain competitive with foreign competition and other transportation modes, we believe that truck manufacturers must do their utmost in developing products that will provide an absolute lowest cost of ownership at the customer level. As an example, the 50% increase that has been realized in heavy truck fuel economy in recent years will continue to be improved. This and other changes in the trucking industry will continue to drive the need for further enhancements of existing truck designs, and will likely lead to new and more optimal vehicle configurations. This need, coupled with our drastically-reduced engineering resources (as compared to only three or four years ago) and a projected future decline in truck sales (see Answer No. 4), will place heavy demands on our company's scarce resources. We therefore believe it vital to be able to delay the $6,500,000 expenditure for implementing the 1986 noise program and thereby be able to use it more judiciously on other customer-oriented product improvements.

QUESTION NO. 7
Please provide quantitative data concerning your existing surplus of new trucks.

ANSWER
IH does not at this time have a surplus of new trucks. Our day's-supply of new trucks is the lowest in some time, and is considered to be at a minimal level. Our current field inventory is only sufficient to maintain daily sales quotas.

QUESTION NO. 8
Please provide your assessment of the possible impact of used truck sales on your new truck production, that would not otherwise occur in the absence of a deferral.

ANSWER
IH assessment of the possible impact of used truck sales on our new 80 dB(A) truck production in the absence of a deferral is based upon the extra cost of an 80 dB(A) equipped truck versus a late model 83 dB(A) used truck. Depending upon the amount of the extra initial cost, a first-year impact of as much as a 15% reduction in new truck sales is possible, with a second-year impact one-half as great. For the third and subsequent years, no impact on new truck deliveries is forecast.

QUESTION NO. 9
This question is primarily directed at the American Trucking Association. Please provide test data that supports the revised noise level recommendations contained in your letter of November 29, 1982 to the Office of Information and Regulatory Affairs, Office of Management and Budget.

ANSWER
As noted, ATA will supply answer to this question regarding an appropriate level for an in-use noise standard.