

MEDIUM AND HEAVY TRUCKS NOISE EMISSION STANDARDS

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Title 40 — PROTECTION OF ENVIRONMENT

Chapter I — Environmental Protection Agency

**Part 205 — Transportation Equipment Noise Emission Controls
Medium and Heavy Trucks**

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 511-8]

PART 205—TRANSPORTATION EQUIP- MENT NOISE EMISSION CONTROLS

Medium and Heavy Trucks

1. INTRODUCTION

On October 30, 1974, notice was published in the *FEDERAL REGISTER* (39 FR 38338) that the Environmental Protection Agency (EPA or Agency) was proposing noise emission standards for new medium and heavy trucks distributed in commerce. The purpose of this notice is to establish final noise emission standards for new medium and heavy trucks distributed in commerce by establishing a new Part 205 of Title 40 of the Code of Federal Regulations. This final rulemaking is promulgated pursuant to sections 6, 10, 11, and 13 of the Noise Control Act of 1972; 86 Stat. 1234; Public Law 92-574 (the Act).

Through the Noise Control Act of 1972, the Congress established a National policy "to promote an environment for all Americans free from noise that jeopardizes their health and welfare." In pursuit of that policy, Congress stated, in section 2 of the Act, "that, while primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce control of which requires national uniformity of treatment." As part of this essential Federal action, section 6 of the Act requires the Administrator to publish proposed regulations for each product which is identified (or is part of a class identified) in any report published under section 5 (b) (1) as a major source of noise, and if such products fall into certain specified categories, one of which is transportation equipment, to prescribe regulations unless in his judgment noise emission standards are not feasible. The Administrator identified medium and heavy trucks as a major source of noise (39 FR 22297).

Under section 6 of the Act, such regulations are to include noise emission standards, setting limits on noise emissions from products distributed in commerce, which are requisite to protect the public health and welfare, taking into account the magnitude and conditions of use of such products, the degree of noise reduction achievable through the application of best available technology, and the cost of compliance. The final regula-

tion being promulgated contains a performance type noise emission standard and specifies the testing procedure necessary to assure compliance with the emission standard. The Agency believes that the standards established by this regulation represent the levels of noise emissions which can be achieved at reasonable cost by the respective effective dates through the application of the best available technology. However, these noise levels are not sufficiently protective of public health and welfare. Accordingly, the Agency is continuing to investigate the availability of technology to further reduce the standards for subsequent years at acceptable cost. A section in the regulation has been reserved for a standard effective in 1985, which EPA will promulgate as an amendment in accordance with section 6(c) (3) of the Act.

Under section 15 of the Act, the Administrator shall certify as a low-noise-emission-product (LNEP) any product which emits noise in amounts significantly below the levels specified by any noise emission standard included in a regulation promulgated pursuant to section 6, for which certification application has been properly filed and which the Administrator determines is suitable for use as a substitute for a type of product in use by agencies of the Federal Government (see 39 FR 6670, February 21, 1974). At this time the specific LNEP noise level(s) for medium and heavy trucks has not been determined; however, the Agency will assign specific level(s) in the near future. Accordingly, a subsection in the regulation has been reserved for LNEP standard and selection criteria.

Under section 6(c) (1) of the Noise Control Act, after the effective date of a regulation promulgated under section 6 regarding product noise emission levels, no State or political subdivision thereof may adopt or enforce any law or regulation which sets a limit on noise emissions from new products regulated by EPA, unless such law is identical to the applicable EPA regulation. Thus, the preemption is against non-identical State and local laws regulating the noise emission level of a Federally-regulated new product, i.e., a product not yet sold to the first retail purchaser. This requires that the standard and those elements of the measurement methodology which are necessary to define the standard be identical to the EPA regulation. However, other elements of the State or local law need not be identical. Such elements include the list of persons subject to the regulations, methods of selecting

test vehicles and sanctions.

Section (6) (c) (2) of the Act specified that nothing in section 6 shall preclude or deny the right of any State or political subdivision thereof to establish and enforce controls on environmental noise and sources thereof through the licensing, regulation, or restriction of the use, operation, or movement of any product or combination of products. Such controls which are reserved to State and local authority under this section include, but are not limited to, the following:

1. Controls on the time of day during which products may be used,
2. Controls on the places or zones in which products may be used,
3. Controls on the number of products which may be operated at the same time,
4. Controls on noise emission level from the properties on which products are used,
5. Controls on the manner of operation of products.

Thus, Federal regulations promulgated under section 6 preempt State and local time-of-sale noise emission standards for a product only after the effective date of a Federal regulation applicable to such product and only to the extent that State or local noise emission standards (and those elements of measurement methodology which are necessary to define the standard) are different from the Federal standards relating to that product.

Conversely, State and local authorities are free to enact regulations on new products offered for sale with standards identical to the Federal standards. The Environmental Protection Agency encourages the adoption of such regulations so that State and local governments may also become actively involved in the enforcement of the standards.

Recognizing that the Noise Control Act was enacted to protect the public from adverse health and welfare effects due to noise, EPA is carrying out its regulatory responsibilities for abating noise from transportation equipment, and in the present instance, medium and heavy trucks, through regulatory action under section 6.

The medium and heavy trucks are the major contributing noise source to overall urban and freeway traffic noise. The Agency has commenced regulatory action on other transportation vehicles, and the levels chosen for the standards in this initial medium and heavy truck regulation are consistent with the overall requirements to quiet all vehicles in

order to ultimately reduce noise from all surface transportation sources to an acceptable level.

The legal basis and factual conclusions which support promulgation of this regulation were set forth in substantial detail in the Notice of Proposed Rulemaking published in the *FEDERAL REGISTER* on October 30, 1974 (39 FR 38338). This publication solicited public comment with the comment period extending initially from October 30, 1974, to December 15, 1974, and subsequently extended by *FEDERAL REGISTER* notice (39 FR 42379) to December 31, 1974.

To ensure that all the issues involved in the proposed regulation would be fully addressed prior to the promulgation of the final regulation, public hearings were held (40 FR 3167, January 22, 1975) in Arlington, Virginia on February 19 and 20, 1975, and in San Francisco, California on February 26 and 27, 1975. In conjunction with these hearings, an additional comment period was allowed, extending from February 19, 1975, to March 20, 1975. The principal issues reviewed at these hearings related to the lead time set forth for manufacturer compliance with the standard, the enforcement program specified in the proposed regulation, and the projected impact of the regulation on manufacturers, users, the transportation industry, and the general public.

Public comments received during each of the three public comment periods, as well as the transcripts of the public hearings, are available to the public and are maintained at the EPA Headquarters, Public Information Center, 401 M Street S.W., Washington, D.C. 20460.

2. SUMMARY OF THE REGULATION

2.1 Standard and Effective Date

The regulation establishes standards and enforcement procedures for noise emissions resulting from the operation of newly manufactured medium and heavy trucks over 10,000 lbs gross vehicle weight rating (GVWR) distributed in commerce. The standard specifies A-weighted sound pressure level, measured at a distance of 50 feet (15.24 meters) from the longitudinal center line of the truck, using fast meter response. The standard measurement procedure used to obtain the data is presented in more detail in S205.54, subpart B.

The standard and effective dates are:

Sound level (dBA) :	Effective date
83-----	Jan. 1, 1978.
80-----	Jan. 1, 1982.
[Reserved]-----	Jan. 1, 1985.

The enforcement procedures include production verification, selective enforcement auditing procedures, warranty, compliance labeling and antitampering provisions.

2.2 Enforcement Program

2.2.1 General

The EPA enforcement strategy under the Noise Control Act of 1972 will place on the manufacturer the major share of the responsibility for testing to determine the compliance of new medium and heavy trucks with the emission standard. This approach benefits the manufacturer by leaving his personnel in control of many aspects of the compliance program and imposes only a minimum burden on his business. At the same time, the inevitable conflict of interest imposed on the manufacturer makes monitoring by EPA of these tests and manufacturers' actions taken in compliance with these regulations advisable to ensure that medium and heavy trucks distributed in commerce are in fact in compliance with these regulations. Accordingly, the regulations provide that EPA Enforcement Officers may be present and observe any testing required by these regulations, or the Administrator may require that a manufacturer supply him with trucks for testing either at the manufacturer's facility or at the EPA Enforcement Test Facility. In addition, enforcement officers will be empowered to inspect records and facilities in order to assure that manufacturers are carrying out their responsibilities properly.

The regulations require that the first person who creates the entity which conforms to the definition of vehicle is responsible for production verification and complying with the labeling requirements. Any person who performs subsequent manufacturing operations on the new product after it has become a vehicle as described within these regulations need not duplicate production verification or labeling operations. However, it is incumbent upon this subsequent manufacturer to assure that his manufacturing operations do not cause the product to exceed the prescribed standards or obscure or remove the required labels. In order that the Administrator may determine the effect on the noise performance of the vehicle, the subsequent manufacturer is subject to the selective enforcement audit of these regulations.

The enforcement strategy promulgated in these regulations consists of three

main parts: (1) Production Verification, (2) Selective Enforcement Auditing, and (3) In-Use Compliance Provisions. A detailed description of these parts, including other important administrative parts, follows.

2.2.2 Production Verification

Production verification is the testing by a manufacturer or EPA of early production models to verify whether a manufacturer has the requisite noise control technology in hand and is capable of applying the technology in a manufacturing process. Models selected for testing must have been assembled using the manufacturer's normal assembly method and must be units assembled for sale. Models tested must conform with the standard or the manufacturer may be required to cease distribution in commerce of trucks of that model.

The production unit selected for testing is a truck configuration. A truck configuration is defined on the basis of truck type, delivery rate, cooling system, air intake and induction system, engine system, and exhaust system. Most of the testing required by these regulations will be performed by the manufacturer at his test site, using his equipment and personnel, although the Administrator reserves the right to be present to monitor or perform any tests. Production verification does not involve any formal EPA approval or issuance of certificates subsequent to manufacturer testing, nor is any extensive testing required of EPA.

To avoid delays of shipment of early production models, due to weather conditions which preclude testing, these regulations provide that production verification of a configuration is automatically and conditionally waived for a manufacturer for a period of up to 45 consecutive days from distribution in commerce of the first truck of that configuration. The manufacturer must test a truck on the first day that weather conditions at his site permit. Failure to test on such first suitable day will result in automatic and retroactive withdrawal of the waiver and will render the manufacturer liable for illegally distributing trucks into commerce.

A manufacturer may production verify a configuration any time during the model year or in advance of a model year if he desires.

A manufacturer shall verify production trucks by one of two methods: The first method will involve testing of a production truck (intended for sale) of each configuration.

Alternatively, production verification

testing of all configurations produced by a manufacturer may not be required where a manufacturer determines that the noise levels of some configurations are consistently higher than others or are always representative of other configurations. In such a case, the higher emitter would be the only configuration requiring verification testing.

The manufacturer must production verify each model year. In some instances, a manufacturer may verify new models based on data submitted during previous model years.

2.2.3 Selective Enforcement Auditing

These regulations provide for sample testing based on an audit of production trucks. Selective Enforcement Auditing (SEA) is the term used in this regulation to describe the testing pursuant to an administrative request, in accordance with the proposed test procedure, of a statistical sample of production trucks, from a particular truck category or configuration selected from a particular assembly plant in order to determine whether production trucks conform to the standards and to provide the basis for further action in the case of non-conformity.

The sampling strategy adopted by EPA does not attempt to impose a quality control or quality assurance scheme upon a manufacturer but merely audits the conformity of his products.

One important factor which will influence the decision of the Administrator to issue a test request is whether the manufacturer is conducting noise emission testing of production trucks on his own cognizance. If a manufacturer can provide evidence that his trucks are meeting standards based on tests and sampling methods acceptable to EPA, issuance of a test request may not be necessary.

The general type of sampling strategy developed by EPA employs attributes-type sampling plans applied to a specific number of batches. Under inspection by attributes, items are inspected or tested to determine whether they meet the prescribed specification. The basic decision criterion is the number of products whose parameters meet specification rather than the average value of some parameter. The particular criterion for trucks is the noise emission standard established by this regulation.

As applied to truck noise emissions, the Acceptable Quality Level (AQL) is the maximum percentage of failing trucks that for purposes of sampling inspection can be considered satisfactory, where a

truck is considered a failure if it exceeds the noise emission standard. An AQL of 10 percent was chosen to take into account some test variability and random production errors.

2.2.4 Labeling—Compliance and Exterior

These regulations require that trucks shall be labeled to provide notice that the truck conforms to the standards contained herein. The compliance label shall contain a notice of tampering prohibitions in the Act which prohibit the removal or rendering inoperative of any noise control features which are identified in the owner's manual. The Agency is presently examining a number of exterior vehicle label configurations which would allow an enforcement official, at a distance from the vehicle, to ascertain the noise emission standard to which the vehicle must comply. Accordingly, a section has been reserved in the regulation for this purpose and as information is developed for such an exterior label, regulations may be proposed in the future under separate rulemaking.

2.2.5 Inspection and Monitoring

Because of the inevitable conflict of interest which results from any compliance system where a significant part of the regulatory activity is controlled by those being regulated, it is essential that EPA personnel have access to aspects of the system in order to determine whether the requirements of the regulations are being followed and whether conforming trucks are being distributed into commerce. Specifically, the inspection and monitoring activities shall be for the purpose of gathering information to enable the Administrator to satisfy himself that required records are being kept, that products which will be tested are being selected and properly prepared for testing, that tests are being properly conducted and that the manufactured product is one which conforms to the regulations, including the applicable noise emission standard. Such inspection and monitoring activities will include access to facets of the testing program required by the regulations; records, reports, and test results which must be maintained; facilities (production, test and storage) which are connected with the manufacturing of trucks.

As a minimum, 24 hours prior notice will normally be given to a manufacturer by the Director of the Mobile Source Enforcement Division or his representative advising him of any visit of EPA Enforcement Officers. However, the regu-

lation does provide for notice only at the time of the visit provided the visit is authorized in writing by the Assistant Administrator for Enforcement.

2.2.6 Record Keeping

These regulations describe the records and other documents concerning testing of trucks which must be maintained and the retention period.

The regulations require that the manufacturers have available a description of his product line and maintain records on specific individual trucks he has tested. For the most part, these information requirements can be satisfied by keeping on hand updated copies of production verification reports. Additionally to preclude issuance of test requests under the Selective Enforcement Auditing procedures for trucks that may not be available, the Administrator may request production information for particular truck models.

2.2.7 Administrative Remedies

Section 11(d) (1) of the Act provides that:

Whenever any person is in violation of Section 10(a) of this Act, the Administrator may issue an order specifying such relief as he determines is necessary to protect the public health and welfare.

Clearly, this provision of the Act is intended to grant the Administrator discretionary authority to fashion civil sanctions to supplement the criminal penalties of Section 11(a). The regulations provide for two types of civil remedies: (1) recall orders, and (2) cease to distribute orders.

If trucks which were not designed, built, and equipped so as to conform with these regulations were distributed in commerce, such act would be a violation of Section 10(a) and remedy of such nonconformity would be appropriate. Remedy of the affected trucks might be carried out pursuant to a recall order.

In some instances, the Administrator may wish to issue a cease to distribute order. If a manufacturer fails to properly verify, the Administrator may issue an order requiring the manufacturer to cease the distribution in commerce of trucks of that category or configuration pending compliance with the production verification requirements. The Administrator will provide the manufacturer notice and the opportunity for a hearing prior to the issuance of such an order.

These regulations also provide for remedy when any manufacturer refuses to allow EPA personnel access to his fa-

cility to conduct activities authorized by the regulations. This remedy is in the form of an order issued by the Administrator to cease distribution in commerce of trucks of the specified configuration being manufactured at that facility. The Administrator will provide a manufacturer notice and the opportunity for a hearing prior to the issuance of such an order.

2.2.8 Exemptions

The regulations also outline the procedures by which EPA will administer the granting of exemptions from the prohibitions of the Act to various product manufacturers, pursuant to Section 10(b). The substantive scope of the exemption provisions of section 10(b) (1) and (2) are defined and procedures whereby exemptions may be requested are set forth. Exemptions will be granted for testing and national security reasons only. Export exemptions will be automatically effective, without request, upon the proper labeling of the products involved. Testing exemptions must be justified in writing by a sufficient demonstration of appropriateness, necessity, reasonableness, and control. Requests for national security exemptions must be enforced by an agency of the Federal Government charged with the responsibility for national defense. This would preclude the granting of exemptions for products used for public welfare, such as municipal fire trucks.

2.2.9 Enforcement Test Facility

EPA intends to have operational in early 1976 a noise enforcement test facility. This facility will be located in Sandusky, Ohio at Plum Brook Station.

EPA intends to conduct confirmatory tests on products already tested by manufacturers in addition to independent compliance testing on products not specifically tested by the manufacturer.

Because some manufacturers may not have available to them a facility which meets the requirements of these regulations, the EPA Enforcement Test Facility would be available for use by such manufacturers to conduct the required testing. Additionally, manufacturers with access to facilities may wish to test or retest some of their products at the EPA Enforcement Test Facility in order to assure themselves that they have successfully production verified their products.

In the instance where compliance testing is conducted at the EPA Enforcement Test Facility at the manufacturer's request, he would be charged a fee which is

representative of the actual expense to the Government.

2.2.10 In-Use Compliance

The manufacturer is required to design, build and equip vehicles subject to these regulations so that they do not exceed the prescribed noise emission standard at the time of ultimate sale. The requirement that the product be manufactured to meet the standard without degradation over a period of useful life is not presently included in the final regulation due to the lack of adequate data to determine the precise period of useful life and the amount of degradation (if any) that may be allowed to occur with use of the product. By amendment to these regulations, the Administrator will include a useful life requirement when appropriate data are collected. In-use compliance provisions are included to avoid or minimize degradation from initial noise emission levels.

The in-use provisions include a requirement that the manufacturer provide a noise emission warranty to purchasers [required by section 6(d)], provide information to the Administrator which will assist in fully defining those acts which constitute tampering [under § 10(a) (2) (A)], and provide retail purchasers with instructions specifying the maintenance, use, and repair required to reasonably assure elimination or minimization of noise level degradation [authorized by § 6(c) (1)].

Under the warranty provisions, intended to more fully implement § 6(d) (1) of the Act, it is required that the manufacturer warrant to the ultimate and subsequent purchasers that new vehicles subject to these regulations are designed, built, and equipped so as to conform at the time of sale with the Federal noise control regulations. The manufacturer must furnish this time-of-sale warranty to the ultimate purchaser in a prescribed written form, which will be reviewed by EPA in order that the Agency can determine whether the manufacturer's warranty policy is consistent with the intent of the Act. Although this is a time-of-sale warranty, claims may be made against the manufacturer at any time during the life of the vehicle with respect to a non-conformity which relates back to the date of sale.

The recall section provides that the manufacturer may be required by EPA to recall vehicles of a particular configuration, if it is determined that vehicles of this configuration did not

conform to Federal noise emission standards at the time of sale.

The tampering provisions require the manufacturer to furnish a list of acts which may be done to vehicles in use and which, if done, are likely to have a detrimental impact on noise emissions. The Administrator will then use this information to develop a final list of those acts which are presumed by EPA to constitute tampering. A statement of the Federal law on tampering and the tampering list must be provided in written form to the ultimate purchaser.

Under the tampering section of the Noise Control Act, EPA believes that any nonoriginal equipment aftermarket part (including a rebuilt part) may be installed in or on a vehicle subject to these regulations if the installer has a reasonable basis for knowing that it will not adversely affect noise emissions. For noise-related replacement aftermarket parts, a reasonable basis exists if (a) the installer reasonably believes that the replacement part or rebuilt part is designed to perform the same function with respect to noise control as the replaced part, or (b) the replacement part or rebuilt part is represented in writing by the part manufacturer or rebuilder to perform the same function with respect to noise control as the replaced part.

For noise-related, add-on, auxiliary, augmenting, or secondary parts or systems, a reasonable basis exists if (a) the installer knows of noise emission tests which show that the part does not cause noise emissions to exceed the time-of-sale standards; or (b) the part or system manufacturer represents in writing that tests have been performed with similar results (to (a) above), or (c) a Federal, State or local environmental control agency with appropriate jurisdiction expressly represents that a reasonable basis exists.

The sections dealing with instructions for proper maintenance, use, and repair of the vehicle are intended to insure that purchasers know exactly what is required to minimize or eliminate degradation of the noise level of the vehicle during its life. These instructions must be both necessary to reasonably assure nondegradation and reasonable in the burden placed on purchasers. A record or logbook must be provided to the ultimate purchaser in order that the purchaser may record maintenance performed during the life of the product. The instructions may not contain language which tends to give the manufacturer or his dealer an unfair advantage over the aftermarket. Finally, the regulation pro-

vides for Agency review of instructions and related language.

3. SUMMARY OF COMMENTS RECEIVED

The EPA has carefully considered all of the comments received regarding the proposed noise emission regulation for medium and heavy trucks. A discussion of these comments with the Agency's response thereto follows. A more detailed response appears as an Appendix to the Background Document.

3.1 Technology

3.1.1 Several commenters contended that the proposed standards could not be achieved through the application of the best available technology, as required by the Act.

EPA considers that the level "achievable through the application of the best available technology" is the lowest noise level which can be reliably predicted based on engineering analysis, that products subject to the standard will be able to meet by the effective date, through application of currently known noise attenuation techniques and materials. In order to assess what can be achieved, EPA has (1) identified the sources of truck noise and the levels to which each of these sources can be reduced, using currently known techniques; (2) determined the level of overall truck noise that would result; (3) assured that all such techniques may be applied to the general truck population; (4) assured that all such techniques are adaptable to production-line assembly; (5) assured that sufficient time is allowed for the design and application of this technology by the effective dates of the standards.

The studies done by EPA, as shown in the Background Document, indicate that levels as low as 75 dBA could be achieved by trucks subject to this regulation, given adequate lead time. However, comments indicated that the kinds of technology which we must currently assume would be applied to achieve levels that low may impose unreasonable costs. This was not the case with levels of 80 dBA and above. Thus, in order to clarify this area of uncertainty, EPA has elected to continue investigating costs and technology for levels below 80 dBA with the intention of promulgating a more stringent standard at a later date to take effect in the post-1982 time period.

3.1.2 One commenter asserted that EPA has not followed its own definition of available technology as stated in the preamble to the proposed regulation, 39 FR 38338 (October 30, 1973).

That statement defined available tech-

nology in part as "Technology applications that have been demonstrated to be feasible, as a prototype product upon which manufacturing may be based." The comment charged that there was no such prototype, and therefore the technology is not available. That definition suggests that a prototype is one way to demonstrate the feasibility of a standard. It may be a prototype of a complete truck; or it may be a prototype of a sound attenuation device. There are many ways of demonstrating the feasibility of a standard which applies to a multisource product. What is required is that the means of quieting the noise are known and that it has been shown that they are capable of practical application. Further, it is necessary that these be the kinds of applications that can be integrated into the normal course of assembly-line production. EPA has done the analysis necessary to establish these points. Therefore, these technology applications have been "demonstrated to be feasible."

3.2 Health and Welfare

3.2.1 Commenters criticized the proposed regulatory standards as being both too strict and too lenient.

The Noise Control Act of 1972 requires the EPA to set standards which are requisite to protect public health and welfare, taking into account the noise reduction achievable through the application of best available technology, the magnitude and conditions of use, and the cost of compliance. The Agency has identified outdoor day-night sound levels equal to or less than 55 dB as requisite to protect public health and welfare with an adequate margin of safety.

As explained in the Background Document, EPA estimates that compliance with the regulation will reduce the impacted people from urban traffic noise by 57.9 percent, assuming a 4 dBA reduction in the noise of other vehicles. Although this represents a significant reduction in extensiveness (number of people impacted) and severity (magnitude of each person's exposure) of existing urban noise impact, at the same time it demonstrates that lower levels than those promulgated here are necessary if public health and welfare is to be adequately protected.

3.2.2 A number of commenters felt the assessment of public health and welfare benefits should be improved.

Improvements have been made in the EPA assessment of the public health and welfare benefits appearing in the Background Document. Some of the revisions

include:

1. The treatment of a wider range of regulatory options,

2. The inclusion of noise contributions from buses and motorcycles,

3. The consideration of the effect of the new truck regulations on reducing the noise levels from noisier trucks more than initially quieter trucks,

4. Revision of truck engine-related and tire noise levels,

5. Assessment of the effect of reductions in the noise levels from vehicles other than medium and heavy trucks.

The estimates of benefits given by EPA are believed to be more detailed and extensive than any of the estimates given in public comments to the proposed regulations and provide the best available information on benefits upon which to base the selection of regulatory levels.

The assessments of the benefits given by EPA include estimates of the number of people impacted by traffic noise, the extent to which various human activities are disrupted by the noise, and the relief from impact associated with the reduction in traffic noise resulting from several possible regulatory options.

3.2.3 Several commenters stated that an "Environmental Impact Statement" (EIS) should be issued for this regulation.

The Environmental Protection Agency is not legally required to accompany its regulations with an Environmental Impact Statement. However, as of October 15, 1975, the EPA has established the policy to voluntarily accompany its most significant proposed regulations with Environmental Impact Statements. Since this regulation was proposed prior to that date it was not subject to that policy, and a draft EIS consequently was not prepared. The Background Document published in support of both the proposed and this regulation contains a substantial portion of the information which would otherwise be found in an Environmental Impact Statement.

3.3 Economics

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

The Act does not require that standards be set that are cost effective in terms of return in benefits for the costs incurred. The mandate to EPA in the Noise Control Act is to set standards necessary to protect public health and welfare, taking into account available technology and the cost of compliance. However, based on an extensive analysis undertaken by the Agency of the benefits

and costs for a wide range of regulatory options, the cost effectiveness of these regulations is higher than indicated in public comments. The estimated uniform annualized* costs for the regulation are no more than 0.26 percent of the uniform annualized revenues of the trucking industry.

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

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

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

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

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

1. Increases in Truck Prices: The differences between the estimates of truck price increases made by the Agency and

the estimates presented by truck manufacturers in the public comments on the proposed regulations are caused by differences in (1) the noise treatments considered necessary to comply with the regulatory levels and (2) the estimates of the cost of each unit of noise treatment hardware.

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

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

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

Conducting a development program will, however, require a test site, acoustical instrumentation and personnel. Many manufacturers already possess acoustic facilities and suitable engineering personnel. For such organizations, the development program required for compliance with the regulations would

simply be a continuation of efforts which already are in progress. The Agency has estimated the total annual costs to the industry of testing as between \$155,000 to \$230,000. Annual production is estimated at about 400,000 vehicles to which these regulations are applicable. The costs of testing would, therefore, be less than \$0.60 per vehicle when considered over the total production.

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

The issue has been raised on the basis that due to rising fuel prices and increased fuel economy resulting from their use, clutched fans may gain widespread acceptance in the truck market without the promulgation of these noise standards. However, a large number of trucks now being manufactured are not equipped with demand fans even though fuel costs have significantly increased during the past 2 years. Fuel savings should not, therefore, be totally excluded as a benefit of noise control regulation. EPA, in its cost analysis, has considered the two cases of (1) crediting 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 for the trucks both with and without fans savings are presented. The true cost will fall somewhere between these two cases.

4. CONTINUING AGENCY RESPONSE TO PUBLIC COMMENTS

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

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

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

The Medium and Heavy Truck Noise Emission Regulation which is now being promulgated incorporates several

changes from the proposed regulation which was published on October 30, 1974. These changes are based upon the public comments received and the results of additional studies performed by the Agency to assess the impact of the regulation. In most instances, changes were made to merely clarify the intent of the regulation.

5.1 Definition of "Slow Meter Response"

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

5.2 Standards and Dates

EPA's economic analysis and health and welfare benefits analysis presented with the proposed regulation have been comprehensively reviewed and revisions made based on new or revised information. Several options involving different time sequences and regulatory levels were developed and carefully analyzed.

Previously the Agency had proposed a 75 dBA standard for the post-1982 period, namely January 1, 1983. The Agency has decided not to promulgate a post-1982 standard at this time. The Agency has been sued to force early promulgation of a medium and heavy truck regulation. The Agency agrees that standards should be promptly promulgated for the 1978 and 1982 time frame to permit industry to move to meet such standards, thereby providing protection to the public health and welfare at the earliest possible time.

The regulation as proposed has been delayed in promulgation due to the Agency's efforts at resolving the uncertainties raised by many commentators concerning the ability of the Agency to adequately establish the availability of technology at reasonable cost for standards more stringent than 80 dBA for future years.

Proceeding with standards at this time for 1978 and 1982 periods, we believe is in the best public interest, particularly since anticipated industry production lead times for post-1982 would allow time for further clarifications of these uncertainties and allow for the establishment of more stringent standards within the desired time frame. To indicate clearly the intent of the Agency to establish more stringent standards in the post-1982 period, a section in the regulations has been specifically reserved therefor.

The effective date of the 83 dBA noise level standard has been changed from January 1, 1977 to January 1, 1978 and the 80 dBA noise level standard effective

date has been changed from January 1, 1981 to January 1, 1982. This is occasioned by the unexpected delay in promulgating the regulation from the time anticipated in the proposed rulemaking. This extension of the effective dates provides the industry with the requisite lead times, as described in the Background Document to this regulation, to comply with the standards with no industry disruption while minimizing the costs and economic impacts of applying the required noise control technology.

The extension of the effective dates will only delay by a corresponding length of time the health and welfare benefits which would otherwise be attained with the earlier effective dates for the similar noise levels, but will not otherwise change the resulting benefits.

5.3 Production Tolerances

Production tolerances were considered in setting the regulatory standards in the Notice of Proposed Rule Making and have again been considered in setting the final standards. These tolerances were taken into account in determining the economic impact of this regulation. After careful consideration, the Administrator determined that the standards should remain on a not-to-exceed basis, as originally proposed.

5.4 Calibration

The proposed regulation required a complete calibration of the entire sound measurement system to be made annually. It is considered that this is a minimum requirement and in the final regulation, the calibration has been required on at least an annual basis and as frequently as is necessary during the annual period. It is left to the complying parties as to how often calibration is necessary to ensure the validity of their test data.

5.5 Ambient Noise Levels

The proposed regulation required that the ambient noise be at least 10 dBA below test vehicle noise. It has been suggested that this difference be made greater than 10 dBA. Calculations showed less than 1/2 dB variation when the difference between levels is 10 dB or more. Consequently, the Ambient Level/Test Vehicle Level difference was left unchanged from 10 dBA.

5.6 Automatic Transmissions

The Agency test procedure as proposed, and the similar SAE J366 test procedure, do not assure that, during testing, the maximum engine noise is generated by vehicles equipped with automatic trans-

missions. A minor technical modification to the test procedure to deal with this problem has, therefore, been incorporated in the final regulation by the Agency. Technical comments received regarding the test procedures indicate no objections as to validity of the test results obtained using this procedure.

5.7 Averaging the Two Highest Data Points

The proposed regulation required that the two highest data points on each side of the test vehicle be averaged and reported as the results of the test. It has been suggested that this procedure produces results which are higher than levels typically produced by the vehicle. The procedure has been changed to allow two levels within 2 dB of each other to be used as the measured level on each side.

5.8 Cetane Ratings and Test Results

The cetane rating of the fuel used during testing of diesel engines may affect the noise levels generated. For example, a naturally aspirated truck using fuel with a cetane rating of 50 may be measured at 2.4 dBA lower noise emissions than the same truck using fuel with a cetane rating of 42. The normal cetane range for type 2D diesel fuel, the most common, is 42 to 50. A turbocharged truck may vary as much as 1.2 dBA.

Therefore, an addition has been made to the regulation specifying the range of 42-50 cetane rating, thereby preventing the use of very high quality fuel in testing noisy trucks and ensuring that the range of possible variation is limited to 2.4 dBA for compliance testing. This range maintains consistence with other requirements imposed by EPA in the gaseous emissions regulation. This range does not limit significantly the availability of diesel fuel for testing. It is the most common range of cetane ratings for diesel fuel and can be obtained from virtually every distributor. No changes in testing costs are expected to result from this change to the proposed regulation.

5.9 Allowing the Demand Actuated Fan To Be Disengaged During Vehicle Testing

At the present time, demand actuated fans typically require the fan to operate less than 6 percent of the time. The fact that the fan operates only when it is needed results in significant fuel savings. From a fuel savings standpoint alone, there is an incentive to minimize fan operation time. However, some concerns have been raised that exempting the de-

mand actuated fans from testing may lead to the installation of products inferior to those presently on the market in order to avoid the intent of the regulation. In order to encourage the use of demand actuated fans, the Administrator has decided that fan clutches may be disengaged during compliance testing. If our studies and compliance information indicate the intent of the regulation is being circumvented, appropriate revisions to this regulation will be rapidly implemented.

5.10 Useful Life Standard

As it appeared in the proposed regulation, the standard for medium and heavy trucks was to extend over the useful life of the vehicle. The intent behind this requirement was to ensure that the public health and welfare benefits derived from the medium and heavy truck standard would be fully achieved over time. The Agency maintains that products which meet emission standards developed to protect public health and welfare should continue to meet those standards during the products' life. However, where degradation cannot be reasonably prevented through periodic preventive maintenance and repair, standards may include a degradation allowance.

Currently, only limited data are available to reasonably determine whether and to what degree the noise from a properly maintained and repaired medium and heavy truck would degrade in time. Accordingly, the Agency is reserving a section for useful life requirements in the regulation and will defer action on setting a useful life standard until sufficient data are collected on which to base a standard. The delay in promulgating a useful life standard should not be construed as a deemphasis of this requirement, but merely as a means to assure that an accurate and reasonable useful life requirement may be imposed.

5.11 Enforcement Program

Comments were received which related to many aspects of the proposed enforcement program, including testing, monitoring and inspecting. After considering the comments carefully, EPA has revised the program significantly to make it more streamlined, fair and flexible. These comments and changes are discussed in detail in the Background Document.

Specifically, the following modifications were made:

5.11.1 Inspections and data acquisition have been limited to that information necessary for the Administrator to determine whether the manufacturer

has been or is distributing into commerce conforming products.

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

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

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

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

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

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

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

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

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

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

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

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

6. IMPACT OF THE REGULATION

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

gated. Summarized below are the impacts anticipated.

6.1 Public Health and Welfare

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

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

6.2 Cost and Economic Impacts

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

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

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

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

Type of truck	83 dBA		80 dBA	
	Price increase	Percent increase	Price increase	Percent increase
Medium, gasoline.....	\$35	0.6	\$180	3.1
Heavy, gasoline.....	125	1.1	255	2.2
Medium, diesel.....	426	5.8	\$50	11.6
Heavy, diesel.....	356	1.4	589	2.3

7. FUTURE INTENT

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

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

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

8. BACKGROUND DOCUMENT

Notice of the availability of the Document entitled "Background Document for Proposed Medium and Heavy Truck Noise Emission Regulations" was published in the FEDERAL REGISTER on October 30, 1974 (39 FR 38338). This document has been substantially revised and provides the basis for the standards established by this rulemaking. This new document is entitled "Background Document for Medium and Heavy Truck

Noise Emission Regulations." It is quite lengthy, and it would be impractical to publish it in its entirety in the FEDERAL REGISTER. Copies may be obtained from the EPA Public Information Center (PM 214), Room 2104D, Waterside Mall, 4th and M Streets SW., Washington, D.C. 20460.

Dated: March 31, 1976.

RUSSELL E. TRAIN,
Administrator.

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

Subpart A—General Provisions

Sec.	
205.1	General applicability.
205.2	Definitions.
205.3	Number and gender.
205.4	Inspection and monitoring.
205.5	Exemptions.
205.5-1	Who may request an exemption.
205.5-2	Testing exemption.
205.5-3	Pre-verification exemptions.
205.5-4	National security exemptions.
205.5-5	Export exemptions.
205.5-6	Granting of exemptions.
205.5-7	Submission of exemption request.

Subpart B—Medium and Heavy Trucks

205.50	Applicability.
205.51	Definitions.
205.52	Vehicle noise emission standards.
205.53	Maintenance of records: submittal of information.
205.54	Test procedures.
205.54-1	Low speed sound emission test procedures.
205.54-2	Sound data acquisition system.
205.55	Production verification.
205.55-1	General requirements.
205.55-2	Production verification: compliance with standards.
205.55-3	Configuration identification.
205.55-4	Production verification report: required data.
205.55-5	Test vehicle sample selection.
205.55-6	Test vehicle preparation.
205.55-7	Testing.
205.55-8	Addition of, changes to and deviation from a vehicle configuration during the model year.
205.55-9	Production verification based on data from previous model years.
205.55-10	Cessation of distribution.
205.55-11	Labeling-compliance.
205.55-12	Labeling-exterior.

Sec.	
205.56	Testing by the administrator.
205.57	Selective enforcement auditing requirements.
205.57-1	Test request.
205.57-2	Test vehicle sample selection.
205.57-3	Test vehicle preparation.
205.57-4	Testing procedures.
205.57-5	Reporting of the test results.
205.57-6	Acceptance and rejection of batches.
205.57-7	Acceptance and rejection of batch sequence.
205.57-8	Continued testing.
205.57-9	Prohibition on distribution in commerce; manufacturer's remedy.
205.58	In-use requirements.
205.58-1	Warranty.
205.58-2	Tampering.
205.58-3	Instructions for maintenance, use and repair.
205.59	Recall of noncomplying vehicles.

APPENDIX I

AUTHORITY: Sec. 6, 10, 11, 13, Pub. L. 92-574, 86 Stat. 1234 (42 U.S.C. 4905, 4909, 4910, 4912).

Subpart A—General Provisions

§ 205.1 General applicability.

The provisions of this subpart are applicable to all products for which regulations have been published under this part and which are manufactured after the effective date of such regulations.

§ 205.2 Definitions.

(a) As used in this subpart, all terms not defined herein shall have the meaning given them in the Act.

(1) "Act" means the Noise Control Act of 1972 (PL 92-574, 86 Stat. 1234).

(2) "Administrator" means the Administrator of the Environmental Protection Agency or his authorized representative.

(3) "Agency" means the United States Environmental Protection Agency.

(4) "Export exemption" means an exemption from the prohibitions of section 10(a) (1), (2), (3), and (4) of the Act, granted by statute under section 10(b) (2) of the Act for the purpose of exporting regulated products.

(5) "National security exemption" means an exemption from the prohibitions of section 10(a) (1), (2), (3), and (5) of the Act, which may be granted under section 10(b) (1) of the Act for the purpose of national security.

(6) "Pre-verification exemption" means a testing exemption which is applicable to products manufactured prior to product verification and required under any section of this part, and use by a manufacturer from year to year in the

ordinary course of business, for product development, production method assessment, and market promotion purposes, but in a manner not involving lease or sale.

(7) "Sound Level" means 20 times the logarithm to base 10 of the ratio of pressure of a sound to the reference pressure. The reference pressure is 20 micropascals (20 micronewtons per square meter). NOTE: Unless otherwise explicitly stated, it is to be understood that the sound pressure is the effective (rms) sound pressure, per American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.

(8) "Sound Pressure Level" means in decibels, 20 times the logarithm to the base 10 of the ratio of a sound pressure to the reference sound pressure of 20 micropascals (20 micronewtons per square meter). In the absence of any modifier, the level is understood to be that of a root-mean-square pressure. The unit of any sound level is the decibel, having the unit symbol dB.

(9) "dB(A)" means the standard abbreviation for A-weighted sound levels in decibels.

(10) "Highway" means the streets, roads, and public ways in any State.

(11) "Fast Meter Response" means that the fast dynamic response of the sound level meter shall be used. The fast dynamic response shall comply with the meter dynamic characteristics in paragraph 5.3 of the American National Standard Specification for Sound Level Meters, ANSI S1.4-1971. This publication is available from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.

(12) "Person" means an individual, corporation, partnership, or association, and except as provided in sections 11(e) and 12(a) of the Act includes any officer, employee, department, agency or instrumentality of the United States, a State or any political subdivision of a State.

(13) "Reasonable assistance" means providing timely and unobstructed access to test products or products and records required by this part, and opportunity for copying such records or testing such test products.

(14) "Ultimate purchaser" means the first person who in good faith purchases a product for purposes other than resale.

(15) "New product" means (a) a product the equitable or legal title of which has never been transferred to an ultimate purchaser, or (b) a product which is imported or offered for importation

into the United States and which is manufactured after the effective date of a regulation under section 6 or section 8 which would have been applicable to such product had it been manufactured in the United States.

(16) "Manufacturer" means any person engaged in the manufacturing or assembling of new products, or the importing of new products for resale, or who acts for and is controlled by any such person in connection with the distribution of such products.

(17) "Commerce" means trade, traffic, commerce, or transportation:

(i) Between a place in a State and any place outside thereof, or

(ii) Which affects trade, traffic, commerce, or transportation described in subparagraph (i).

(18) "Distribute in commerce" means sell in, offer for sale in, or introduce or deliver for introduction into, commerce.

(19) "State" includes the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Trust Territory of the Pacific Islands.

(20) "Federal Agency" means an executive agency (as defined in section 105 of Title 5, United States Code) and includes the United States Postal Service.

(21) "Environmental noise" means the intensity, duration, and the character of sounds from all sources.

(22) "Warranty" means the warranty required by § 6(c) (1) of the Act.

(23) "Tampering" means those acts prohibited by § 10(a) (2) of the Act.

(24) "Maintenance instructions" or "instructions" means those instructions for maintenance, use, and repair, which the Administrator is authorized to require pursuant to section 6(c) (1) of the Act.

(25) "Type I Sound Level Meter" means a sound level meter which meets the Type I requirements of ANSI S1.4-1972 specification for sound level meters. This publication is available from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.

(26) "Testing exemption" means an exemption from the prohibitions of section 10(a) (1), (2), (3), and (5) of the Act, which may be granted under section 10(b) (1) of the Act for the purpose of research, investigations, studies, demonstrations, or training, but not including national security where lease or sale of the exempted product is involved.

(27) "Product" means any transportation equipment for which regulations have been promulgated under this part

and includes "test product."

(28) "Test product" means any product that is required to be tested pursuant to this part.

§ 205.3 Number and gender.

As used in this part, words in the singular shall be deemed to import the plural, and words in the masculine gender shall be deemed to import the feminine and vice versa, as the case may require.

§ 205.4 Inspection and monitoring.

(a) Any inspecting or monitoring activities conducted under this section shall be for the purpose of determining

(1) whether required records are being properly maintained, (2) whether test products are being selected and prepared for testing in accordance with the provisions of these regulations, (3) whether test product testing is being conducted in accordance with these regulations, and (4) whether products being produced for distribution into commerce are as described in the production verification report.

(b) Any manufacturer subject to regulation under this part shall admit or cause to be admitted any Environmental Protection Agency (hereafter, EPA) Enforcement Officer during operating hours upon demand after having received 24 hour prior notification except as provided for by paragraph (e) of this section, and upon presentation of credentials and authorization in writing signed by the Director, Mobile Source Enforcement Division or his designee to any of the following:

(1) Any facility or site where any product to be distributed into commerce is manufactured, assembled, or stored;

(2) Any facility or site where any tests conducted pursuant to this part or any procedures or activities connected with such tests are or were performed;

(3) Any facility or site where any test product is present; and

(4) Any facility or site where records, reports, other documents or information required to be maintained or provided to the Administrator are located.

(c) (1) Upon admission to any facility or site referred to in paragraph (b) of this section, any EPA Enforcement Officer shall be allowed:

(i) To inspect and monitor test product manufacture and assembly, selection, storage, preconditioning, noise emission testing, and maintenance, and to verify correlation or calibration of test equipment;

(ii) To inspect products prior to their distribution in commerce;

(iii) To inspect and make copies of any records, reports, documents, or information required to be maintained or provided to the Administrator under the Act;

(iv) To inspect and photograph any part or aspect of any such product and any component used in the assembly thereof that are reasonably related to the purpose of his entry.

(2) Any EPA Enforcement Officer shall be furnished by those in charge of a facility or site being inspected with such reasonable assistance as he may request to help him discharge any function listed in this section. A manufacturer is required to cause those in charge of a facility or site operated for its benefit to furnish such reasonable assistance without charge to EPA whether or not it controls the facility.

(3) The duty to admit or cause to be admitted any EPA Enforcement Officer applies whether the facility or site is owned or controlled by the manufacturer or by one who acts for the manufacturer and applies both to domestic and foreign manufacturers' facilities and sites. EPA will not attempt to make any inspections which it has been informed that foreign law forbids. However, if foreign law makes it impossible to do what is necessary to ensure the accuracy of data generated at a facility, no informed judgment that a product has been properly tested in accordance with these regulations can properly be based on that data. It is the responsibility of the manufacturer to locate its testing and manufacturing facilities and sites in jurisdictions where this situation will not arise.

(d) For purposes of this section:

(1) "Presentation of credentials" shall mean display of the document designating a person as an EPA Enforcement Officer.

(2) Where test product storage areas or facilities are concerned, "operating hours" shall mean all times during which personnel other than custodial personnel are at work in the vicinity of the area or facility and have access to it.

(3) Where facilities or areas other than those covered by paragraph (d) (2) of this section are concerned "operating hours" shall mean all times during which product manufacture or assembly is in operation or all times during which product testing and maintenance is taking place and/or production or compilation of records is taking place, or any other procedure or activity related to production verification testing, selective en-

forcement audit testing or product manufacture or assembly being carried out in a facility.

(e) Any entry without 24 hour prior written or oral notification to the affected manufacturer shall be authorized in writing by the Assistant Administrator for Enforcement.

(f) (1) Pursuant to Section 11(d) (1) of the Act, the Administrator may issue an order to the manufacturer to cease the distribution in commerce of particular products being manufactured at a particular facility if:

(i) Any EPA Enforcement Officer is denied the access required in paragraph (b) and (c) of this section.

(ii) Any EPA Enforcement Officer is denied "reasonable assistance" (as defined in § 205.2(a) (13)).

(2) The sanction of issuing an order to cease distribution of products into commerce may be imposed for the reasons in subparagraph (i) and/or (ii) of this paragraph only when the infraction is substantial.

(3) Any such order shall be issued only after notice and opportunity for a hearing.

§ 205.5 Exemptions.

§ 205.5-1 Who may request an exemption.

Any manufacturer may request an exemption provided by this subpart or exempt products as provided by § 205.5-5.

§ 205.5-2 Testing exemption.

(a) Any manufacturer requesting a testing exemption must demonstrate that the proposed test program:

(1) Has a purpose which constitutes an appropriate basis for an exemption in accordance with section 10(b) (1) of the Act;

(2) Necessitates the granting of an exemption;

(3) Exhibits reasonableness in scope; and

(4) Exhibits a degree of control consonant with the purpose of the program and the EPA's monitoring requirements. Paragraphs (b), (c), (d), and (e) below describe what constitutes a sufficient demonstration for each of the four above identified elements.

(b) With respect to the purpose of the proposed test program, an appropriate purpose is one which is consistent with one or more of the bases for exemption set forth under section 10(b) (1) of the Act, namely research, investigations, studies, demonstrations, or training, but not including national security (see

§ 205.5-4). A concise statement of purpose is a required item of information.

(c) With respect to the necessity that an exemption be granted, necessity arises from an inability to achieve the stated purpose in a practicable manner without performing a prohibited act under sections 10(a) (1), (2), (3), or (5) of the Act. In appropriate circumstances time constraints may be sufficient basis for necessity.

(d) With respect to reasonableness, a test program must exhibit a duration of reasonable length and affect a reasonable number of products. In this regard, required items of information include:

(1) An estimate of the program's duration;

(2) The absolute number of products involved;

(3) The duration of the test;

(4) The ownership arrangement with regard to the products involved in the test;

(5) The intended final disposition of the products;

(6) The means or procedure whereby test results will be recorded.

(c) Paragraph (a) of this section applies irrespective of the product's place of manufacture.

§ 205.5-3 Pre-verification exemptions.

Section 205.5-2 does not apply for pre-verification products. In such cases, a request for exemption is necessary; however, the only information required is a statement setting forth the general nature of the pre-verification products program, the number of products involved and a demonstration that adequate record-keeping procedures for the control purposes will be employed.

§ 205.5-4 National security exemptions.

A manufacturer requesting a national security exemption must state the purpose for which the exemption is required and the request must be endorsed by an agency of the Federal government charged with responsibility for national defense.

§ 205.5-5 Export exemptions.

(a) A new product intended solely for export, and so labeled or marked on the outside of the container and on the product itself, shall be exempt from the prohibitions of section 10(a), (1), (2), (3), and (4) of the Act.

(b) No request for an export exemption is required.

(c) It is a condition of an export exemption under section 10(b) (2) that such exemption shall be void *ab initio*

with respect to each new product intended solely for export which is distributed in commerce for use in any State.

(d) Any manufacturer or person subject to the liabilities of section 11(a) with respect to any product, originally intended for export, but distributed in commerce for use in any State, may be excluded from the application of section 11(a) with respect to such product based upon a showing that such manufacturer:

(1) Had no knowledge of such product being distributed in commerce for use in any state; and

(2) Made reasonable efforts to ensure that such products would not be distributed in commerce for use in any State. Such reasonable efforts would include investigation, prior dealings, contract provisions, etc.

§ 205.5-6 Granting of exemptions.

(a) If upon completion of the review of an exemption request, the granting of an exemption is deemed appropriate, a memorandum of exemption will be prepared and submitted to the manufacturer requesting the exemption. The memorandum will set forth the basis for the exemption, its scope, and such terms and conditions as are deemed necessary to protect the public health and welfare. Such terms and conditions will generally include, but are not limited to, agreements by the applicant to conduct the exempt activity in the manner described to EPA, create and maintain adequate records accessible to EPA at reasonable times, employ labels for the exempt products setting forth the nature of the exemption, take appropriate measures to assure that the terms of the exemption are met, and advise EPA of the termination of the activity and the ultimate disposition of the products. EPA may limit the scope of any exemption by placing restrictions on time, location and duration. EPA may also withdraw the exemption at any time based upon information that the public health and welfare is being endangered.

(b) Any exemption granted pursuant to paragraph (a) shall be deemed to cover any subject product only to the extent that the specified terms and conditions are complied with. A breach of any term or condition shall cause the exemption to be void *ab initio* with respect to any product. Consequently, the distribution in commerce for use of any subject product other than in strict conformity with all terms and conditions of

this exemption shall constitute a violation of section 10(a) (1) and (3) of the Act, and shall render the manufacturer to whom the exemption is granted and any other person to whom the provisions of section 10 are applicable, liable to sanction under sections 11 and 12 of the Act.

§ 205.5-7 Submission of exemption request.

Requests for exemption or further information concerning exemptions and/or the exemption request review procedure should be addressed to:

Director, Mobile Source Enforcement Division (EN340), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

Subpart B—Medium and Heavy Trucks

§ 205.50 Applicability.

(a) Except as otherwise provided for in these regulations the provisions of this subpart apply to any vehicle which has a gross vehicle weight rating (GVWR) in excess of 10,000 pounds, which is capable of transportation of property on a highway or street and which meets the definition of the term "new product" in the Act.

(b) The provisions of the subpart do not apply to highway, city, and school buses or to special purpose equipment which may be located on or operated from vehicles. Tests performed on vehicles containing such equipment may be carried out with the special purpose equipment in nonoperating condition. For purposes of this regulation special purpose equipment includes, but is not limited to, construction equipment, snow plows, garbage compactors and refrigeration equipment.

§ 205.51 Definitions.

(a) As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in other subparts of this part.

(1) "Acceptable Quality Level" means the maximum percentage of failing vehicles that for purposes of sampling inspection, can be considered satisfactory as a process average.

(2) "Acceptance of a batch" means that the number of noncomplying vehicles in the batch sample is less than or equal to the acceptance number as determined by the appropriate sampling plan.

(3) "Batch" means the collection of vehicles of the same category or configuration as designated by the Administra-

tor in a test request, from which a batch sample is to be randomly drawn, and inspected to determine conformance with the acceptability criteria.

(4) "Batch size" means the number as designated by the Administrator in the test request of vehicles of the same category or configuration in a batch.

(5) "Batch sample" means the collection of vehicles of the same category or configuration which are randomly drawn from a batch from which test samples are randomly drawn.

(6) "Batch sample size" means the number of vehicles of the same category or configuration in a batch sample.

(7) "Cab over axle" or "cab over engine" means the cab which contains the operator/passenger compartment is directly above the engine and front axle and the entire cab can be tilted forward to permit access to the engine compartment.

(8) "Category" means a group of vehicle configurations which are identical in all material aspects with respect to the parameters listed in § 205.55-3.

(9) "Configuration" means the basic classification unit of a manufacturer's product line and is comprised of all vehicle designs, models or series which are identical in material aspects with respect to the parameters listed in § 205.55-2 of this subpart.

(10) "Acceptance of a Batch sequence" means that the number of rejected batches in the sequence is less than or equal to the acceptance number as determined by the appropriate sampling plan.

(11) "Rejection of a Batch sequence" means that the number of rejected batches in a sequence is equal to or greater than the rejection number as determined by the appropriate sampling plan.

(12) "Capable of Transportation of Property on a street or highway" means that the vehicle:

(i) Is self propelled and is capable of transporting any material or fixed apparatus, or is capable of drawing a trailer or semi-trailer;

(ii) Is capable of maintaining a cruising speed of at least 25 mph over level, paved surface;

(iii) Is equipped or can readily be equipped with features customarily associated with practical street or highway use, such features including but not being limited to: a reverse gear and a differential, fifth wheel, cargo platform or cargo enclosure, and

(iv) Does not exhibit features which

render its use on a street or highway impractical, or highly unlikely, such features including, but not being limited to, tracked road means, an inordinate size or features ordinarily associated with combat or tactical vehicles.

(13) "Exhaust System" means the system comprised of a combination of components which provides for enclosed flow of exhaust gas from engine exhaust port to the atmosphere.

(14) "Gross Combination Weight Rating" (GCWR) means the value specified by the manufacturer as the loaded weight of a combination vehicle.

(15) "Gross Vehicle Weight Rating" (GVWR) means the value specified by the manufacturer as the loaded weight of a single vehicle.

(16) "Inspection Criteria" means the rejection and acceptance numbers associated with a particular sampling plan.

(17) "Model year" means the manufacturer's annual production period which includes January 1 of such calendar year: Provided, that if the manufacturer has no annual production period, the term "model year" shall mean the calendar year.

(18) "Noise Control System" includes any vehicle part, component or system the primary purpose of which is to control or cause the reduction of noise emitted from a vehicle.

(19) "Noise emission test" means a test conducted pursuant to the measurement methodology specified in this subpart.

(20) "Production verification vehicle" means any vehicle selected for testing, tested or verified pursuant to the production verification requirements of this subpart.

(21) "Rejection of a batch" means the number of noncomplying vehicles in the batch sample is greater than or equal to the rejection number as determined by the appropriate sampling plan.

(22) "Shift" means the regular production work period for one group of workers.

(23) "Test sample" means the collection of vehicles from the same category or configuration which is randomly drawn from the batch sample and which will receive noise emissions tests.

(24) "Failing vehicle" means that the measured emissions of the vehicle, when measured in accordance with the applicable procedure, exceeds the applicable standard.

(25) "Acceptance of a vehicle" means that the measured emissions of the vehicle when measured in accordance with the applicable procedure, conforms to the applicable standard.

(26) "Tampering" means those acts prohibited by section 10(a) (2) of the Act.

(27) "Test sample size" means the number of vehicles of the same category or configuration in a test sample.

(28) "Test Vehicle" means a vehicle in a test sample or a production verification vehicle.

(29) "Vehicle" means any motor vehicle, machine or tractor propelled by mechanical power, with a gross vehicle weight rating in excess of 10,000 pounds, capable of transportation of property on a street or highway, and includes a partially or fully enclosed operator's compartment.

§ 205.52 Vehicle noise emission standards.

(a) Low Speed Sound Emission Standard. Vehicles which are manufactured after the following effective dates, shall be designed, built and equipped so that they will not produce sound emissions in excess of the levels indicated.

<i>Effective date</i>	<i>Level</i>
(i) Jan. 1, 1978-----	83 dBA.
(ii) Jan. 1, 1982-----	80 dBA.
(iii) Jan. 1, 1985-----	[Reserved].

(b) The standards set forth in paragraph (a) of this section refer to the sound emissions as measured in accordance with the procedures prescribed in § 205.54-1.2.

(c) Every manufacturer of a new motor vehicle subject to the standards prescribed in this paragraph shall, prior to taking any of the actions specified in section 10(a)(1) of the Act, comply with the other provisions of this subpart of Subpart A, as applicable.

(d) In-Use Standard [Reserved]

(e) Low Noise Emission Product [Reserved]

§ 205.53 Maintenance of records: submittal of information.

(a) Except as otherwise provided for in this regulation the manufacturer of any new vehicle subject to any of the standards or procedures prescribed in this subpart shall establish, maintain and retain the following adequately organized and indexed records:

(i) General records: (i) Identification and description by category and configuration parameters of all vehicles composing the manufacturer's product line including the identification and description of all devices incorporated into the vehicle for the purpose of noise control and attenuation.

(ii) A description of any procedures

other than those contained in these regulations used to perform noise tests on any test vehicle.

(iii) A record of the calibration of the acoustical instrumentation as is required by § 205.54.

(2) Individual records for test vehicles: (i) A complete record of all noise emission tests performed (except tests performed by EPA directly), including all individual worksheets and/or other documentation relating to each test, or exact copies thereof.

(ii) A record and description of all repairs, maintenance and other servicing performed, giving the date and time of the maintenance or service, the reason for it, the person authorizing it, and the names of supervisory personnel responsible for the conduct of the maintenance or service.

(3) A properly filed production verification report following the format prescribed by the Administrator fulfills the requirements of paragraph (a) (1) (i), (ii), (iii) and (a) (2) (i) of this section.

(4) All records required to be maintained under this part shall be retained by the manufacturer for a period of three (3) years from the production verification date. Records may be retained as hard copy or alternatively reduced to microfilm, punch cards, etc., depending on the record retention procedures of the manufacturer; however, all of the information contained in the hard copy shall be retained in the alternative method if this method is used.

(b) The manufacturer shall, pursuant to a request made by the Administrator, submit to the Administrator the following information with regard to new vehicle production:

(1) number of vehicles, by category or configuration, scheduled for production for the time period designated in the request.

(2) number of vehicles, by category or configuration, produced during the time period designated in the request.

§ 205.54 Test procedures.

The procedures described in this and subsequent sections will be the test program to determine the conformity of vehicles with the standards set forth in § 205.52.

§ 205.54-1 Low speed sound emission test procedures.

(a) Instrumentation. The following instrumentation shall be used, where applicable.

(1) A sound level meter which meets

the Type 1 requirements of ANSI S1.4-1971, Specification for Sound Level Meters, or a sound level meter may be used with a magnetic tape recorder and/or a graphic level recorder or indicating meter, providing the system meets the requirements of § 205.54-2.

(2) A sound level calibrator. The calibrator shall produce a sound pressure level, at the microphone diaphragm, that is known to within an accuracy of ± 0.5 dB. The calibrator shall be checked annually to verify that its output has not changed.

(3) An engine-speed tachometer which is accurate within ± 2 percent of meter reading.

(4) An anemometer or other device for measurement of ambient wind speed accurate within ± 10 percent.

(5) A thermometer for measurement of ambient temperature accurate within ± 1 C.

(6) A barometer for measurement of ambient pressure accurate within ± 1 percent.

(b) (1) The test site shall be such that the truck radiates sound into a free field over a reflecting plane. This condition may be considered fulfilled if the test site consists of an open space free of large reflecting surfaces, such as parked vehicles, signboards, buildings or hillsides, located within 100 feet (30.4 meters) of either the vehicle path or

(2) The microphone shall be located 50 feet ± 4 in. (15.2 ± 0.1 meter) from the centerline of truck travel and 4 feet ± 4 in. (1.2 ± 0.1 meters) above the ground plane. The microphone point is defined as the point of intersection of the vehicle path and the normal to the vehicle path drawn from the microphone.

The microphone shall be oriented with respect to the source so that the sound strikes the diaphragm at the angle for which the microphone was calibrated to have the flattest frequency response characteristic over the frequency range 100 Hz to 10 kHz.

(3) An acceleration point shall be established on the vehicle path 50 feet (15 m) before the microphone point.

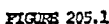
(4) An end point shall be established on the vehicle path 100 feet (30 m) from the acceleration point and 50 feet (15 m) from the microphone point.

(5) The end zone is the last 40 feet (12 m) of vehicle path prior to the end point.

(6) The measurement area shall be the triangular paved (concrete or sealed asphalt) area formed by the acceleration point, the end point, and the microphone location.

(10) Bystanders have an appreciable influence on sound level meter readings when they are in the vicinity of the vehicle or microphone; therefore not more than one person, other than the observer reading the meter, shall be within 50 feet (15.2 meters) of the vehicle path or instrument and the person shall be directly behind the observer reading the

(15) Vehicles equipped with thermostatically controlled radiator fans may be tested with the fan not operating.



(c) Procedure: (1) Vehicle operation for vehicles with standard transmissions. Full throttle acceleration and closed throttle deceleration tests are to be used. A beginning engine speed and proper gear ratio must be determined for use during measurements. Closed throttle deceleration tests are required only for those vehicles equipped with an engine brake.

(i) Select the highest rear axle and/or transmission gear ("highest gear" is used in the usual sense; it is synonymous to the lowest numerical ratio) and an initial vehicle speed such that at wide-open throttle the vehicle will accelerate from the acceleration point.

(a) Starting at no more than two-thirds (66 percent) of maximum rated or of governed engine speed.

(b) Reaching maximum rated or governed engine speed within the end zone.

(c) Without exceeding 35 mph (56 k/h) before reaching the end point.

(i) Should maximum rated or governed rpm be attained before reaching the end zone, decrease the approach rpm in 100 rpm increments until maximum rated or governed rpm is attained within the end zone.

(2) Should maximum rated or governed rpm not be attained until beyond the end zone, select the next lower gear until maximum rated or governed rpm is attained within the end zone.

(3) Should the lowest gear still result in reaching maximum rated or governed rpm beyond the permissible end zone, unload the vehicle and/or increase the approach rpm in 100 rpm increments until the maximum rated or governed rpm is reached within the end zone.

(ii) For the acceleration test, approach the acceleration point using the engine speed and gear ratio selected in paragraph (c) (1) of this section and at the acceleration point rapidly establish wide-open throttle. The vehicle reference shall be as indicated in paragraph (b) (7) of this section. Acceleration shall continue until maximum rated or governed engine speed is reached.

(iii) Wheel slip which affects maximum sound level must be avoided.

(iv) If the vehicle being tested is equipped with an engine brake, it must also be tested as follows: Approach the microphone point at maximum rated or governed engine speed in the gear selected for the acceleration test. At the microphone point, close the throttle and immediately apply the engine brake fully and allow the vehicle to decelerate

to one-half of maximum rated or of governed engine speed. The vehicle reference shall be as indicated in paragraph (b) (7) of this section. The engine brake must be full on during this test.

(2) Vehicle operation for vehicles with automatic transmissions. Full throttle acceleration and closed throttle deceleration tests are to be used. Closed throttle deceleration tests are required only for those vehicles equipped with an engine brake.

(i) Select the highest gear axle and/or transmission gear (highest gear is used in the usual sense; it is synonymous to the lowest numerical ratio) in which no up or down shifting will occur under any operational conditions of the vehicle during the test run. Also, select an initial vehicle speed such that at wide-open throttle the vehicle will accelerate from the acceleration point.

(a) Starting at two-thirds (66 percent) of maximum rated or of governed engine speed.

(b) Reaching maximum rated or governed engine speed within the end zone.

(c) Without exceeding 35 mph (56 k/h) before reaching the end point.

(i) Should maximum rated or governed rpm be attained before reaching the end zone, decrease the approach rpm in 100 rpm increments until maximum rated or governed rpm is attained within the end zone.

(2) Should maximum rated or governed rpm not be attained until beyond the end zone, select the next lower gear until maximum rated or governed rpm is attained within the end zone.

(3) Should the lowest gear still result in reaching maximum rated or governed rpm beyond the permissible end zone, unload the vehicle and/or increase the approach rpm in 100 rpm increments until the maximum rated or governed rpm is reached within the end zone, notwithstanding that approach engine speed may now exceed two-thirds of maximum rated or of full load governed engine speed.

(4) Should the maximum rated or governed rpm still be attained before entering the end zone, and the engine rpm during approach cannot be further lowered, begin acceleration at a point 10 feet closer to the beginning of the end zone. The approach rpm to be used is to be that rpm used prior to the moving of the acceleration point 10 feet closer to the beginning of the end zone.

(5) Should the maximum rated or governed rpm still be attained before entering the end zone, repeat the instructions

in paragraph (4) until maximum rated or governed rpm is attained within the end zone.

(ii) For the acceleration test, approach the acceleration point using the engine speed and gear ratio selected in paragraph (c) (2) (i) of this section and at the acceleration point rapidly establish wide-open throttle. The vehicle reference shall be as indicated in paragraph (b) (7) of this section. Acceleration shall continue until maximum rated or governed engine speed is reached.

(iii) Wheel slip which affects maximum sound level must be avoided.

(iv) If the vehicle being tested is equipped with an engine brake, it must also be tested as follows: Approach the microphone point at maximum rated or governed engine speed in the gear selected for the acceleration test. At the microphone point, close the throttle, immediately apply the engine brake fully and allow the vehicle to decelerate to one-half of maximum rated or of governed engine speed. The vehicle reference shall be as indicated in paragraph (b) (7) of this section. The engine brake must be full on during this test.

(3) Measurements. (i) The meter shall be set for "fast response" and the A-weighted network.

(ii) The meter shall be observed during the period while the vehicle is accelerating or decelerating. The applicable reading shall be the highest sound level obtained for the run. The observer is cautioned to rerun the test if unrelated peaks should occur due to extraneous ambient noises. Readings shall be taken on both side of the vehicle.

(iii) The sound level associated with a side shall be the average of the first two pass-by measurements for that side, if they are within 2 dB(A) of each other. Average of measurements on each side shall be computed separately. If the first two measurements for a given side differ by more than 2 dB(A), two additional measurements shall be made on each side, and the average of the two highest measurements on each side, within 2 dB(A) of each other, shall be taken as the measured vehicle sound level for that side. The reported vehicle sound level shall be the higher of the two averages.

(d) General Requirements. (1) Measurements shall be made only when wind velocity is below 12 mph (19 km/hr).

(2) Proper usage of all test instrumentation is essential to obtain valid measurements. Operating manuals or other literature furnished by the instrument manufacturer shall be referred to for both recommended operation of the

instrument and precautions to be observed. Specific items to be adequately considered are:

(i) The effects of ambient weather conditions on the performance of the instruments (for example, temperature, humidity, and barometric pressure).

(ii) Proper signal levels, terminating impedances, and cable lengths on multi-instrument measurement systems.

(iii) Proper acoustical calibration procedure to include the influence of extension cables, etc. Field calibration shall be made immediately before and after each test sequence. Internal calibration means is acceptable for field use, provided that external calibration is accomplished immediately before or after field use.

(3) (i) A complete calibration of the instrumentation and external acoustical calibrator over the entire frequency range of interest shall be performed at least annually and as frequently as necessary during the yearly period to insure compliance with the standards cited in American National Standard S1.4-1971 "Specifications for Sound Level Meters" for a Type 1 instrument over the frequency range 50 Hz-10,000 Hz.

(ii) If calibration devices are utilized which are not independent of ambient pressure (e.g., a piston-phone) corrections must be made for barometric or altimetric changes according to the recommendation of the instrument manufacturer.

(4) The truck shall be brought to its normal operating temperature prior to commencement of testing. During testing appropriate caution shall be taken to maintain the engine at temperatures within the normal operating range.

§ 205.54-2 Sound data acquisition system.

(a) Systems employing tape recorders and graphic level recorders may be established as equivalent to a Type I—ANSI S1.4-1971 sound level meter for use in determining compliance with this regulation by meeting the requirements of this section (§ 205.54-2(b)). This sound data acquisition system qualification procedure is based primarily on ANSI S6.1-1973.

(1) *Performance Requirements*—(i) *System frequency response*. It is required that the overall steady-state frequency response of the data acquisition system shall be within the tolerances prescribed in Table 205.1 when measured in accordance with section (2). The tolerances in Table 205.1 are applicable to either flat or A-weighted response. (See paragraph (3) (iii)).

(ii) *Detector response.* To ensure that a (true) rms indication is provided, the difference between the level indicated for a 1000 Hz sinusoidal signal equivalent to a sound level of 86 dB (rms) and the level indicated for an octave band of random noise of equal energy as the sinusoidal signal centered at 1000 Hz shall be no greater than 0.5 dB. A true rms voltmeter shall be used to determine equivalence of two input signals.

(iii) *Indicating meter.* If an indicating meter is used to obtain sound levels or band pressure levels, it must meet the requirements of paragraph (a) (2) and (a) (6) (ii) of this section and the following.

TABLE 205.1.—System response data

Frequency (hertz)	A-weighted response (Re-1000 Hz, dB)	Tolerance (decibels)	
		Plus—	Minus—
31.5	-39.4	1.5	1.5
40.0	-34.6	1.5	1.5
50.0	-30.2	1.0	1.0
63.0	-26.2	1.0	1.0
80.0	-22.5	1.0	1.0
100.0	-19.1	1.0	1.0
125.0	-16.1	1.0	1.0
160.0	-13.4	1.0	1.0
200.0	-10.9	1.0	1.0
250.0	-8.6	1.0	1.0
315.0	-6.6	1.0	1.0
400.0	-4.8	1.0	1.0
500.0	-3.2	1.0	1.0
630.0	-1.9	1.0	1.0
800.0	-0.8	1.0	1.0
1,000.0	0	1.0	1.0
1,250.0	0.6	1.0	1.0
1,600.0	1.0	1.0	1.0
2,000.0	1.2	1.0	1.0
2,500.0	1.3	1.0	1.0
3,150.0	1.2	1.0	1.0
4,000.0	1.0	1.0	1.0
5,000.0	0.5	1.5	2.0
6,300.0	-0.1	1.5	2.0
8,000.0	-1.1	1.5	3.0
10,000.0	-2.5	2.0	4.0
12,500.0	-4.3	3.0	6.0

(A) The scale shall be graduated in 1 dB steps.

(B) No scale indication shall be more than 0.2 dB different from the true value of the signal when an input signal equivalent to 86 dB sound level indicates correctly.

(C) Maximum indication for an input signal of 1000 Hz tone burst of 0.2 sec duration shall be within the range of -2 to 0 dB with respect to the steady-state indication for a 1000 Hz tone equivalent to 86 dB sound level.

(iv) *Microphone.* If microphone is used which has not been provided as a component of a precision sound level meter, it must be determined to meet the microphone characteristics described in IEC Publication 179, Precision Sound Level Meters.

(v) *Magnetic tape recorders.* No requirements are described in this document pertaining to tape recorders, except for frequency response. Generally, recorders of adequate quality to provide the frequency response performance required will also meet other minimum requirements for distortion, signal-to-noise ratio, etc.

(vi) *Graphic level recorder dynamic response.* When using a graphic level recorder, it is necessary to select pen response settings such that the readings obtained are statistically equivalent to those obtained by directly reading a meter which meets the "fast" dynamic requirement of a precision sound level meter indicating meter system for the range of vehicles to be tested. To ensure statistical equivalence, at least 30 comparative observations of real test data shall be made and the average of the absolute value of the differences observed shall be less than 0.5 dB. The settings described in paragraph (a) (6) of this section likely assure appropriate dynamic response; however, different settings may be selected on the basis of the above requirement.

(A) Use a pen writing speed of nominally 60-100 dB/sec. If adjustable, low frequency response should be limited to about 20 Hz.

(B) Indicated overshoot for a suddenly applied 1000 Hz sinusoidal signal equivalent to 86 dB sound level shall be no more than 1.1 dB and no less than 0.1 dB.

(2) *Frequency response qualification procedure.* (i) Typical noise measurement and analysis configurations are shown in Figures 205.2 through 205.4. The qualification procedure described herein duplicates these configurations, but with the microphone replaced by an electronic sinewave oscillator. Caution should be exercised when connecting an oscillator to the input of a sound level meter to ensure, perhaps by using a restrictive voltage divider network, that the input is not overloaded (see § 205.54-2(a)2(ii)).

(ii) Calibrate the oscillator to be used by measuring its output relative to the voltage which is equivalent to 86 dB sound level at each of the 27 frequencies listed in Table 205.1 using an electronic voltmeter of known calibration. Record the result in voltage level in dB re voltage corresponding to 86 dB sound level at 1000 Hz. This will describe the frequency response characteristics of the oscillator.

(iii) If a graphic level recorder is to be used, connect it to the oscillator output. If the oscillator and graphic level recorder can be synchronized, slowly sweep the frequency over the range of 31.5 to 12,500 Hz, recording the oscillator output. If they cannot be synchronized, record oscillator output for signals at the 27 frequencies given in Table 205.1. The differences between the combined response thus obtained and the oscillator response obtained previously will describe the frequency response of the graphic level recorder.

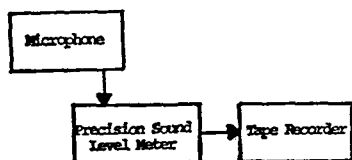


Figure 205.2 Data Recording

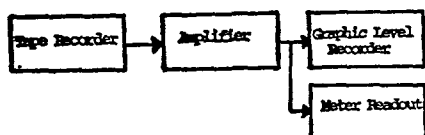


Figure 205.3 Data Analysis and Test Analysis

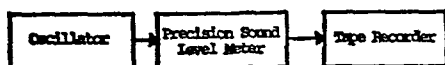


Figure 205.4 Test Recording

(iv) If visual observation of an indicating meter is to be used for obtaining data, the oscillator should be connected to the indicating meter input (such as the microphone input of a sound level meter) and the meter reading observed for a fixed oscillator output voltage setting for signals at the 27 frequencies given in Table 205.1.

(v) To check a tape recorder, connect the instruments as shown in Figure 205.4. Using a 1000 Hz tone, adjust the oscillator output level to obtain a reading 15 dB below maximum record level. If the synchronized oscillator/graphic level recorder system is to be used for analysis, record an oscillator sweep over the range of 31.5 to 12,500 Hz, using an ap-

propriate tape recorder input attenuator setting. Alternatively, tape-record frequency tones at the 27 frequencies given in Table 205.1. Replay the tape recordings using the setup shown in Figure 205.3. Record the data on a graphic level recorder or through visual observation of the indicating meter. Subtract the oscillator frequency response in paragraph (b) (2) of this section from the response obtained through the record-playback sequence to obtain the record/reproduce frequency response of the system except for the microphone.

(vi) To obtain the overall system frequency response, add the manufacturer's microphone calibration data to the response just obtained. This may be the frequency response for the specific microphone to be used, including calibration tolerances. Alternatively, use the manufacturer's "typical" microphone response plus and minus the maximum deviation expected from "typical" including calibration tolerances. Use the microphone response curve which corresponds to the manner in which it is used in the field. It may be required to add a correction to the response curves provided to obtain field response; refer to the manufacturer's manual.

(vii) Adjustment or repair of equipment may be required to obtain response within the requirements of paragraph (a) of this section. After any adjustments, the system shall be requalified according to paragraph (b) of this section.

(3) *General comments.* (i) Calibrate tape recorders using the brand and type used for actual data acquisition. Differences in tape can cause an appreciable variation in the recorder/reproduce frequency response characteristics of tape recorder.

(ii) It shall be ensured that the instrumentation used will perform within specifications and applicable tolerances over the temperature, humidity, and other environmental variation ranges which may be encountered in vehicle noise measurement works.

(iii) Qualification tests shall be performed using equipment (including cables) and recording and playback techniques identical with those used while recording vehicle noise. For example, if weighted sound level data are normally recorded use similar weighting and apply the tolerances of Table 205.1 to the weighting curve for comparison with record-playback curves. Precautions should also be taken to ensure that source and load impedances are appropriate to the device being tested. Other

data acquisition systems may use any combination of microphones, sound level meters, amplifiers, tape recorders, graphic level recorders, or indicating meters. The same approach to qualifying such a system shall be taken as described in this document for the systems depicted in Figures 205.2, 205.3 and 205.4.

(b) Systems other than those specified in sections 205.54-1(a) and 205.54-2(a) may be used for establishing compliance with this regulation. In each case the system must yield sound levels which are equivalent to those produced by a sound level meter Type 1 ANSI S1.4-1971. The manufacturer bears the burden of demonstrating such equivalence. The manufacturer shall notify the Administrator pursuant to §§ 205.55-4(b)(5) and 205.57-5(c)(4) of the use of such a sound data acquisition system.

§ 205.55 Production verification.

§ 205.55-1 General requirements.

(a) Every new vehicle manufactured for distribution in commerce in the United States which is subject to the standards prescribed in this subpart and not exempted in accordance with § 205.5:

(1) Shall be verified in accordance with the production verification procedures described in this subpart; and

(2) Shall be represented in a product verification report, as required by § 205.55-4 or this subpart; and

(3) Shall be labeled in accordance with the requirements of § 205.55-12 of this subpart; and

(4) Shall conform to the applicable noise emission standard established in § 205.52 of this regulation.

(b) The requirements of paragraph (a) apply to new products at the time they first conform to the definition of vehicles in these regulations. The responsibility for complying with the requirement of paragraph (a) rests with the manufacturer of the new product at the time the product first conforms to the definition of vehicle in these regulations.

(c) Subsequent manufacturers of a new product which conforms to the definition of vehicle in these regulations when received by them from a prior manufacturer, need not fulfill the requirements of paragraph (a) (1), (2) or (3) where such requirements have already been complied with by a prior manufacturer.

§ 205.55-2 Production verification: compliance with standards.

(a) (1) Prior to distribution in commerce of vehicles of a specific configura-

tion, the first manufacturer of such vehicles must verify such configurations in accordance with the requirements of this subpart; except, that production verification of a configuration is automatically and conditionally waived by the Administrator without request by a manufacturer for a period of up to 45 consecutive days from the date of distribution in commerce by the manufacturer of the first vehicle of that configuration in order to enable a manufacturer to distribute vehicles in commerce and thus avoid disruption of the manufacturing process: Provided, that a manufacturer conducts the necessary tests required in paragraphs (b) and/or (c) below as soon as weather conditions at a manufacturer's test facility permit after distribution in commerce of the first vehicle of a configuration. Failure to test on such first suitable day will result in automatic and retroactive rescission of the waiver and will render the manufacturers liable for illegally distributing vehicles in commerce.

(2) At the completion of any 45 day period the conditional waiver granted under paragraph (a) (1) of this section is rescinded for that configuration unless the manufacturer has complied with the requirements of paragraph (b) and/or (c) of this section as appropriate; except that upon application by a manufacturer and a showing that the weather conditions at the manufacturer test facility or other conditions beyond the control of the manufacturer made it impossible to conduct the required testing and such conditions are documented by the manufacturer and submitted with any application, the Administrator, at his option, may extend for a specified period (not to exceed 45 days), conditional production verification for a configuration to enable the manufacturer to comply with the requirements of paragraph (b) and/or (c) of this section or he may require that the manufacturer ship the test vehicle to the EPA test facility for testing by the Administrator.

(b) The production verification requirements with regard to each vehicle configuration consist of:

(1) testing in accordance with § 205.54 of a vehicle selected in accordance with § 205.55-4;

(2) compliance of the test vehicle with the applicable standards when tested in accordance with § 205.54; and

(3) submission of a production verification report pursuant to § 205.55-4.

(c) (1) In lieu of testing vehicles of every configuration as described in para-

graph (b) of this section, the manufacturer may elect to verify the configuration based on representative testing, the requirements of which consist of:

(i) Grouping configurations into a category where each category will be determined by a separate combination of at least the following parameters (a manufacturer may use more parameters):

(a) *Engine type.*

(1) Gasoline—two stroke cycle.

(2) Gasoline—four stroke cycle.

(3) Diesel—Two stroke cycle.

(4) Diesel—Four stroke cycle.

(5) Rotary—Wankel.

(6) Turbine.

(7) Other.

(b) *Engine manufacturer.*

(c) *Engine displacement.*

(d) *Engine configuration (e.g., L-6 V-8, etc.).*

(e) *Series (i.e., cab design) including but not limited to conventional, cab over engine, and cab forward.*

(ii) Identifying the configuration within each category which emits the highest sound pressure level (dBA) based on his best technical judgment and/or emission test data;

(iii) Testing in accordance with § 205.54 of a vehicle selected in accordance with § 205.55-5 which must be a vehicle of the configuration which is identified pursuant to subparagraph (ii) of this paragraph as having the highest sound pressure level (estimated or actual) within the category;

(iv) Compliance of the test vehicle with applicable standards when tested in accordance with § 205.54; and

(v) Submission of a production verification report pursuant to § 205.55-4.

(2) Where the requirements of paragraph (c) (1) are complied with, all those configurations contained within a category are considered represented by the tested vehicle and are considered to be production verified.

(3) Where the manufacturer tests a vehicle configuration which has not been determined as having the highest sound pressure level of a category, but all other requirements of paragraph (c) (1) of this section are complied with, all those configurations contained within that category which are determined to have sound pressure levels no greater than the tested vehicle are considered to be represented by the tested vehicle and are considered to be production verified; however, a manufacturer must production verify according to the requirements of (b) (1) and/or (c) (1) of this section any configurations in the subject category which

have a higher sound pressure level than the vehicle configuration tested.

(d) A manufacturer may elect to production verify using representative testing pursuant to paragraph (c) of this section, all or part of his product line.

(e) The manufacturer may, at his option, proceed with any of the following alternatives with respect to any vehicle determined not in compliance with applicable standards.

(1) Delete that configuration from the production verification report. Configurations so deleted may be included in a later report under § 205.55-4. However, in the case of representative testing a new test vehicle from another configuration must be selected and production verified according to the requirements of paragraph (c) of this section, in order to production verify the configurations represented by the non-compliant vehicle.

(2) Modify the test vehicle and demonstrate by testing that it meets applicable standards. All modifications and test results must be reported in the production verification report. The manufacturer must modify all production vehicles of the same configuration in the same manner as the test vehicle before distribution into commerce.

(f) Upon request, by Director, Mobile Source Enforcement Division, the manufacturer shall notify such Director of any production verification testing scheduled by the manufacturer pursuant to this section so that EPA Enforcement Officers may be present and observe such testing or conduct the testing in lieu of the manufacturer.

§ 205.55-3 Configuration identification.

(a) A separate vehicle configuration shall be determined by each combination of the following parameters:

(1) *Exhaust system configuration.* (i) Single vertical.

(ii) Dual vertical.

(iii) Single horizontal.

(iv) Dual horizontal.

(2) *Air induction system (engine).* (i) Natural.

(ii) Turbocharged.

(3) *Fan.* (i) Diameter.

(ii) Drive.

(a) Direct.

(b) Thermostatic.

(iii) Max fan rpm.

(4) *Engine manufacturer's horsepower rating.*

(5) *Cab characteristic.* (i) Sleeper.

(ii) Non sleeper.

(6) *Category parameters listed in § 205.55-2.*

§ 205.55-4 Production verification report; required data.

(a) The manufacturer shall submit a production verification report to the Director, Mobile Source Enforcement Division (EN-340), U.S. Environmental Protection Agency, 401 M. St., S.W., Washington, D.C. 20460. A manufacturer may choose to submit separate production verification reports for different parts of his product line.

(b) The report shall be signed by an authorized representative of the manufacturer and shall include the following:

(1) The name, location and description of the manufacturer's noise emission test facilities which meet the specification of § 205.54 and have been utilized to conduct testing pursuant to this subpart b; except, that a test facility that has been described in a previous submission under this subpart need not again be described but must be identified as such.

(2) A description of normal predelivery maintenance procedure.

(3) A description of all vehicle configurations as determined in accordance with § 205.55-3, to be distributed in commerce by the manufacturer including a list identifying or defining any device or element of design (including its location and method of operation) incorporated into vehicles for the purpose of noise control and attenuation including the following information for each configuration:

(i) Muffler (exhaust). (a) Manufacturer

(b) Manufacturer part number

(ii) Air induction system (engine). (a) Muffler manufacturer name

(b) Muffler manufacturer part number

(iii) Governed or maximum rated rpm

(iv) Any device which affects noise emissions from the vehicle and does not operate during the normal operating modes of the vehicle (e.g., over temperature protection)

The manufacturer may satisfy the vehicle configuration description requirements of this paragraph by submitting as part of the production verification report a copy of his sales data literature which describes his product line including options: Provided, that this literature is supplemented with any additional information to fulfill the requirements of this section. If a manufacturer elects to production verify pursuant to § 205.55-2 (c) the configuration, within each category, which is estimated to have the highest sound pressure level (dBA) shall

be identified. The manufacturer may estimate the sound pressure level based on his best technical judgment and/or data. The criteria used to estimate each sound pressure level shall be stated with the estimates.

(4) the following information for each noise emission test conducted:

(i) the completed data sheet required by § 205.54 for all official tests conducted in accordance with § 205.55-7 including, for each invalid test, the reason for invalidation.

(ii) A complete description of any preparation, maintenance or testing which was performed on the test vehicle and which will not be performed on all other production vehicles

(iii) The reason for replacement where a replacement vehicle was necessary, and test results, if any, for replaced vehicle.

(5) A complete description of the sound data acquisition system if other than those specified in § 205.54-1(a) and § 205.54-2(a).

(6) The following statement and endorsement: "This report is submitted pursuant to section 6 and section 13 of the Noise Control Act of 1972. All testing for which data is reported herein is conducted in strict conformance with applicable regulations under 40 CFR Part 205. All the data reported herein is a true and accurate representation of such testing. All other information reported herein is, to the best of -----

(company

----- knowledge, true and accurate. I (name)

am aware of the penalties associated with violations of the Noise Control Act of 1972 and the regulations thereunder.

-----"

(authorized representative)

(c) Where a manufacturer elects to submit separate production verification reports for portions of his product line as provided for in paragraph (a) of this section, information provided in previous reports need not be resubmitted. Except, that information necessary to update or make current previously submitted information must be submitted.

(d) Any change with respect to any information reported pursuant to this subpart shall be reported as soon as the information becomes available.

§ 205.55-5 Test vehicle sample selection.

(a) Test vehicles of a configuration for which production verification testing is required by § 205.55.2 shall be a vehicle of the subject configuration which

has been assembled using the manufacturer's normal production processes and will be sold or offered for sale in commerce.

(b) Should a situation arise in which the configuration to be tested consists of only vehicles with automatic transmissions, they shall be tested in accordance with § 205.54-1(c)(2).

(c) If the configuration to be tested consists of both automatic transmission and standard transmission vehicles, the test vehicle shall be a standard transmission vehicle unless the manufacturer has reason to believe that the automatic transmission vehicle emits a greater sound level.

§ 205.55-6 Test vehicle preparation.

(a) Prior to the official test, the test vehicle selected in accordance with § 205.55-5 shall not be prepared, tested, modified, adjusted, or maintained in any manner unless such adjustments, preparation, modification and/or tests are part of the manufacturer's prescribed manufacturing and inspection procedures, and are documented in the manufacturer's internal vehicle assembly and inspection procedures or unless such adjustments and/or tests are required or permitted under this subpart or are approved in advance by the Administrator. The manufacturer may perform adjustments, preparations, modification and/or tests normally performed at the port of entry by the manufacturer to prepare the vehicle for delivery to a dealer or customer.

(b) Equipment or fixtures necessary to conduct the test may be installed on the vehicle: Provided, that such equipment or fixtures shall have no effect on the noise emissions of the vehicle, as determined by measurement methodology.

(c) In the event of vehicle malfunction (i.e., failure to start, misfiring cylinder, etc.) the manufacturer may perform the maintenance that is necessary to enable the vehicle to operate in a normal manner. Provided, that such maintenance is documented and reported in the final report prepared and submitted in accordance with this subpart.

(d) No quality control, testing, assembly or selection procedures shall be used on the completed vehicle or any portion thereof, including parts and subassemblies, that will not normally be used during the production and assembly of all other vehicles of the category which will be distributed in commerce, unless such procedures are required or permitted under this subpart.

§ 205.55-7 Testing.

(a) The manufacturer shall conduct one valid test in accordance with the test procedures specified in § 205.54. In the event a vehicle is unable to complete the emission test, the manufacturer may replace the vehicle with a vehicle of the same configuration as the replaced vehicle or a noisier configuration and will be subject to all the provisions of these regulations. Any replacement shall be reported in the production verification report including the reason for the replacement.

(b) No maintenance will be performed on test vehicles except as provided for by § 205.55-6. In the event a vehicle is unable to complete the emission test, the manufacturer may replace the vehicle. Any replacement vehicle will be a production vehicle of the same configuration as the replaced vehicle or a noisier configuration and will be subject to all the provisions of these regulations. Any replacement shall be reported in the production verification report including the reason for the replacement.

(c) In the event a vehicle fails to comply with the standards of this subpart when tested in accordance with the procedures specified in paragraph (a) of this section, the manufacturer may proceed in accordance with § 205.55-2(e) of this subpart.

§ 205.55-8 Addition of, changes to and deviation from a vehicle configuration during the model year.

(a) Any change to a configuration with respect to any of the parameters stated in § 205.55-3 shall constitute the addition of a new and separate configuration or category to the manufacturer's production line.

(b)(1) When a manufacturer introduces a new category or configuration to his product line, he shall proceed in accordance with § 205.55-2.

(2) If the configuration to be added can be grouped within a verified category and the new configuration is estimated to have a lower sound pressure level than a previously verified configuration within the same category, the configuration shall be considered verified: Provided, that the manufacturer submits a report pursuant to § 205.55-4 with respect to such configuration.

§ 205.55-9 Production verification based on data from previous model years.

(a) Production verification of each configuration will be required at the be-

ginning of each model year except that in certain instances, the Administrator, upon request by the manufacturer, may permit the use of production verification data for specific configurations from previous production verification reports. Considerations relevant to his decision are:

(1) The level of the standard in effect for the model years in question;

(2) Performance based on production verification data for previous years;

(3) Performance based on data obtained from selective enforcement testing during previous model years; and

(4) The number and type of noise emission design changes incorporated in the new models.

§ 205.55-10 Cessation of distribution.

(a) If a category or configuration is found to be nonconforming with these regulations by reason of failure to be properly verified, as required by § 205.55-2, the Administrator may issue an order to the manufacturer to cease to distribute in commerce vehicles of that category or configuration: Provided, however, that such an order shall not be issued if the manufacturer has made a good faith attempt to properly production verify the category or configuration. The burden of establishing such good faith shall rest with the manufacturer.

(b) Any such order shall be issued after notice and opportunity for a hearing.

§ 205.55-11 Labeling-compliance.

(a) (1) The manufacturer of any vehicle subject to the provisions of section 205.52 shall, at the time of manufacture, affix a permanent, legible label, of the type and in the manner described below, containing the information hereinafter provided, to all such vehicles to be distributed in commerce. The labels shall be affixed in such a manner that they cannot be removed without destroying or defacing them, and shall not be affixed to any equipment which is easily detached from such vehicle.

(2) A label shall be permanently attached, in a readily visible position, in the operator's compartment.

(3) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(i) The label heading: Vehicle Noise Emission Control Information;

(ii) Full corporate name and trademark of manufacturer;

(iii) Date of manufacture;

(iv) The statement:

This Vehicle Conforms to U.S. EPA Regulations for Noise Emission Applicable to Medium and Heavy Trucks.

The following acts or the causing thereof by any person are prohibited by the Noise Control Act of 1972: (A) The removal or rendering inoperative, other than for purposes of maintenance, repair, or replacement, of any noise control device or element of design (listed in the owner's manual) incorporated into this vehicle in compliance with the Noise Control Act; (B) The use of this vehicle after such device or element of design has been removed or rendered inoperative.

(v) Vehicles manufactured solely for use outside the United States shall be clearly labeled "For Export Only."

§ 205.55-12 Labeling-Exterior [Reserved].

§ 205.56 Testing by the administrator.

(a) (1) The Administrator may require that any vehicle to be tested pursuant to these regulations or other vehicles be submitted to him, at such place and time as he may designate for the purpose of conducting tests in accordance with the test procedures described in § 205.54 to determine whether such vehicles conform to applicable regulations.

(2) The Administrator may specify that he will conduct such testing at the manufacturer's facility, in which case instrumentation and equipment of the type required by these regulations shall be made available by the manufacturer for test operations. The Administrator may conduct such tests with his own equipment, which shall equal or exceed the performance specifications of the instrumentation of equipment specified by the Administrator in these regulations.

(b) (1) If, based on tests conducted by the Administrator, the Administrator determines that the test facility is inappropriate for conducting the tests required by this part he will notify the manufacturer in writing of his determination and the reasons therefor.

(2) After the notification in paragraph (b) (1) of this section, no data derived from the subject test facility will be acceptable for the purpose of this part and the Administrator may issue an order to the manufacturer, with respect to the vehicle category or configuration in question to cease to distribute in commerce vehicles of such category or configuration: Except, that any such order shall be issued only after notice and opportunity for a hearing. Such notification may be included in any notifications

under paragraph (b)(1) of this section. A manufacturer may request that the Administrator grant a hearing. Request shall be made not later than fifteen (15) days, or other such period as may be allowed by the Administrator, subsequent to notification of the Administrator's intent to issue an order to cease to distribute.

(3) The manufacturer may request in writing that the Administrator reconsider his determination in paragraph (b)(1) of this section based on data or information which indicates that changes have been made to the test facility and such changes have resolved the reasons for disqualification.

(4) The Administrator will notify the manufacturer of his determination with regard to the requalification of the test facility within 10 days of the manufacturer's request for reconsideration pursuant to paragraph (b)(3) of this section.

(c) (1) Whenever the Administrator conducts a test on a test vehicle the results of that test shall constitute the official test data for that vehicle.

(2) The Administrator may accept the manufacturer's test data in lieu of his data upon a showing by the manufacturer that the data, acquired under paragraph (a) are erroneous and that the manufacturer's data are correct.

§ 205.57 Selective enforcement auditing requirements.

§ 205.57-1 Test request.

(a) The Administrator will request all testing under this subpart by means of a test request addressed to the manufacturer.

(b) The test request will be signed by the Assistant Administrator for Enforcement or his designee. The test request will be delivered by an EPA Enforcement Officer to the plant manager or other responsible official as designated by the manufacturer.

(c) The test request will specify the vehicle category or configuration selected for testing, the batch selected for testing, the batch size, the manufacturer's plant or storage facility from which the vehicles must be selected, the time at which a vehicle must be selected. The test request will also provide for situations in which the selected configuration or category is unavailable for testing. The test request may include an alternative category or configuration selected for testing in the event that vehicles of the first specified category or configuration are not available for testing

because the vehicles are not being manufactured at the specified plant and/or are not being manufactured during the specified time or not being stored at the specified plant or storage facility.

(d) Any manufacturer shall, upon receipt of the test request, select and test a batch sample of vehicles from two consecutively produced batches of the vehicle category or configurations specified in the test request in accordance with these regulations and the conditions specified in the test request.

(e) (1) Any testing conducted by the manufacturer pursuant to a test request shall be initiated within such period as is specified within the test request: Except, that such initiation may be delayed for increments of 24 hours or one business day where ambient test site weather conditions in any 24-hour period do not permit testing: Provided, that the ambient test site weather conditions for that period are recorded.

(2) The manufacturer shall complete emission testing on a minimum of five vehicles per day unless otherwise provided for by the Administrator or unless ambient test site conditions only permit the testing of a lesser number: Provided, that ambient test site weather conditions for that period are recorded.

(3) The manufacturer will be allowed, 24 hours to ship vehicles from a batch sample from the assembly plant to the testing facility if the facility is not located at the plant or in close proximity to the plant: Except, that the Administrator may approve more time based upon a request by the manufacturer accompanied by a satisfactory justification.

(f) The Administrator may issue an order to the manufacturer to cease to distribute into commerce vehicles of a specified category or configuration being manufactured at a particular facility if:

(1) The manufacturer refuses to comply with the provisions of a test request issued by the Administrator pursuant to this section; or

(2) The manufacturer refuses to comply with any of the requirements of this section.

(g) A cease-to-distribute order shall not be issued under paragraph (f) of this section if such refusal is caused by conditions and circumstances outside the control of the manufacturer which renders it impossible to comply with the provisions of a test request or any other requirements of this section. Such conditions and circumstances shall include, but are not limited to, any uncontrollable factors which result in the temporary unavailability of equipment and person-

nel needed to conduct the required tests, such as equipment break-down or failure or illness of personnel, but shall not include failure of the manufacturer to adequately plan for and provide the equipment and personnel needed to conduct the tests. The manufacturer will bear the burden of establishing the presence of the conditions and circumstances required by this paragraph.

(h) Any such order shall be issued only after a notice and opportunity for a hearing.

§ 205.52-2 Test vehicle sample selection.

(a) Vehicles comprising the batch sample which are required to be tested pursuant to a test request in accordance with this subpart will be selected in the manner specified in the test request from a batch of vehicles of the category or configuration specified in the test request. If the test request specifies that the vehicles comprising the batch sample must be selected randomly, the random selection will be achieved by sequentially numbering all of the vehicles in the batch and then using a table of random numbers to select the number of vehicles as specified in (c) of this section based on the batch size designated by the Administrator in the test request. An alternative random selection plan may be used by a manufacturer: Provided, that such a plan is approved by the Administrator. If the test request does not specify that test vehicles must be randomly selected, the manufacturer shall select test vehicles consecutively. The provisions of sections 205.55(b) and (c) shall also pertain to this section.

(b) The Acceptable Quality Level is 10 percent. The appropriate sampling plans associated with the designated AQL are contained in Appendix I, Table II.

(c) The appropriate batch sample size will be determined by reference to Appendix I, Table I and II. A code letter is obtained from Table I based on the batch size designated by the Administrator in a test request. The batch sample size will be obtained from Table II. The batch sample size will be equal to the maximum cumulative sample size for the appropriate code letter obtained from Table I plus an additional 10 percent rounded off to the next highest number.

(d) If the test request specifies that vehicles comprising the batch sample must be selected randomly, individual vehicles comprising the test sample will be randomly selected from the batch sample using the same random selection plan as in paragraph (a) of this section.

Test sample size will be determined by entering Table II.

(e) The test vehicle of the category or configuration selected for testing shall have been assembled by the manufacturer for distribution in commerce using the manufacturer's normal production process.

(f) Unless otherwise indicated in the test request, the manufacturer will select the batch sample from the production batch, next scheduled after receipt of the test request, of the category or configuration specified in the test request.

(g) Unless otherwise indicated in the test request, the manufacturer shall select the vehicles designated in the test request for testing.

(h) At their discretion, EPA Enforcement Officers, rather than the manufacturer, may select the vehicles designated in the test request.

(i) The manufacturer will keep on hand all vehicles in the batch sample until such time as the batch is accepted or rejected in accordance with § 205.57-6: Except, that vehicles actually tested and found to be in conformance with these regulations need not be kept.

§ 205.57-3 Test vehicle preparation.

(a) Prior to the official test, the test vehicle selected in accordance with § 205.57-2 will be prepared in accordance with § 205.55-6.

§ 205.57-4 Testing procedures.

(a) The manufacturer shall conduct one valid test in accordance with the test procedures specified in § 205.54 of this subpart for each vehicle selected for testing pursuant to this subpart.

(b) No maintenance will be performed on test vehicles except as provided for by § 205.57-3. In the event a vehicle is unable to complete the emission test, the manufacturer may replace the vehicle. Any replacement vehicle will be a production vehicle of the same configuration as the replaced vehicle. It will be randomly selected from the batch sample and will be subject to all the provisions of these regulations.

§ 205.57-5 Reporting of the test results.

(a) (1) The manufacturer shall submit a copy of the test report for all testing conducted pursuant to § 205.57 at the conclusion of each 24-hour period during which testing is done.

(2) For each test conducted the manufacturer will provide the following information:

(i) Configuration and category identi-

fication where applicable;

(ii) Year, make, assembly date, and model of vehicle;

(iii) Vehicle serial number; and

(iv) Test results by serial numbers.

(3) The first test report for each batch sample will contain a listing of all serial numbers in that batch.

(b) In the case where an EPA Enforcement Officer is present during testing required by this subpart, the written reports requested in paragraph (a) of this section may be given directly to the Enforcement Officer.

(c) Within 5 days after completion of testing of all vehicles in a batch sample the manufacturer shall submit to the Administrator a final report which will include the information required by the test request in the format stipulated in the test request in addition to the following:

(1) The name, location, and description of the manufacturer's emission test facilities which meet the specifications of § 205.54 and were utilized to conduct testing reported pursuant to this section: Except, that a test facility that has been described in a previous submission under this subpart need not again be described but must be identified as such.

(2) A description of the random vehicle selection method used, referencing any tables of random numbers that were used, name of the person in charge of the random number selection, if the vehicle test request specifies a random vehicle selection.

(3) The following information for each noise emission test conducted,

(i) The completed data sheet required by § 205.54 for all noise emission tests including: for each invalid test, the reason for invalidation.

(ii) A complete description of any modification, repair, preparation, maintenance, and/or testing which was performed on the test vehicle and will not be performed on all other production vehicles.

(iii) The reason for the replacement where a replacement vehicle was authorized by the Administrator, and, if any, the test results for the replaced vehicles.

(4) A complete description of the sound data acquisition system if other than those specified in sections 205.54-1 (a) and 205.54-2(a).

(5) The following statement and endorsement: "This report is submitted pursuant to section 6 and section 13 of the Noise Control Act of 1972. All testing for which data is reported herein was conducted in strict conformance with applicable regulations under 40 CFR 205

et seq. All the data reported herein is a true and accurate representation of such testing. All other information reported herein is, to the best of _____

(company name)

knowledge, true and accurate. I am aware of the penalties associated with violations of the Noise Control Act of 1972 and the regulations thereunder _____

(authorized representative)

§ 205.57-6 Acceptance and rejection of batches.

(a) The batch from which a batch sample is selected will be accepted or rejected based upon the number of failing vehicles in the batch sample. A sufficient number of test samples will be drawn from the batch sample until the cumulative number of failing vehicles is less than or equal to the acceptance number or greater than or equal to the rejection number appropriate for the cumulative number of vehicles tested. The acceptance and rejection numbers listed in Appendix I, Table II at the appropriate code letter obtained according to § 205.57-2 will be used in determining whether the acceptance or rejection of a batch has occurred.

(b) Acceptance or rejection of a batch takes place when the decision that a vehicle is a failing vehicle is made on the last vehicle required to make a decision under paragraph (a) of this section.

§ 205.57-7 Acceptance and rejection of batch sequence.

(a) The manufacturer will continue to inspect consecutive batches until the batch sequence is accepted or rejected based upon the number of rejected batches. A sufficient number of consecutive batches will be inspected until the cumulative number of rejected batches is less than or equal to the sequence acceptance number or greater than or equal to the sequence rejection number appropriate for the cumulative number of batches inspected. The acceptance and rejection numbers listed in Appendix I, Table III at the appropriate code letter obtained according to § 205.57-2 will be used in determining whether the acceptance or rejection of a batch sequence has occurred.

(b) Acceptance or rejection of a batch sequence takes place when the decision that a vehicle is a failing vehicle is made on the last vehicle required to make a decision under paragraph (a) of this section.

(c) If the batch sequence is accepted, the manufacturer will not be required to

perform any additional testing on vehicles from subsequent batches pursuant to the initiating test request.

(d) The Administrator may terminate testing earlier than required in paragraph (b) based on a request by the manufacturer accompanied by voluntary cessation of distribution in commerce, from all plants, of vehicles from the configuration in question: Provided, that once production is reinitiated the manufacturer must take the action described in § 205.57-9 (a) (1) and (a) (2) prior to distribution in commerce of any vehicles from any plant of the vehicle category of configuration in question.

§ 205.57-8 Continued testing.

(a) If a batch sequence is rejected in accordance with paragraph (b) of § 205.57-7, the Administrator may require continued 100 percent testing with respect to all vehicles of that category or configuration produced at that plant.

(b) The Administrator will notify the manufacturer in writing of his intent to require any 100 percent testing of vehicles pursuant to paragraph (a) of this section.

(c) Any tested vehicle which demonstrated conformance with the applicable standards may be distributed into commerce.

(d) Any knowing distribution into commerce of a vehicle which does not comply with the applicable standards is a prohibited act.

§ 205.57-9 Prohibition on distribution in commerce; manufacturer's remedy.

(a) Once 100 percent continuous testing has been instituted on a category or configuration pursuant to § 205.57-3 the manufacturer must take the following actions before the Administrator will consider discontinuing such testing:

(1) Submit a written report to the Administrator which identifies the reason for the noncompliance of the vehicles, describes the problem and describes the proposed quality control and/or quality assurance remedies to be taken by the manufacturer to correct the problem or follows the requirements for an engineering change pursuant to section 205.55-9; and

(2) Demonstrates that the specified vehicle category or configuration complies with the applicable emission standards by testing vehicles from two consecutively produced batches of that vehicle category or configuration in accordance with these regulations and the

conditions specified in the initial test request.

(b) Any vehicle failing the prescribed noise emission tests conducted pursuant to this subpart B may not be distributed in commerce until necessary adjustments or repairs have been made and the vehicle passes a retest.

(c) No vehicles of a rejected batch which are still in the hands of the manufacturer may be distributed in commerce unless the manufacturer has demonstrated to the satisfaction of the Administrator that such vehicles do in fact conform to the regulations: Except, that any vehicle that has been tested and does, in fact, conform with these regulations may be distributed in commerce.

§ 205.58 In-use requirements.

§ 205.58-1 Warranty.

(a) The vehicle manufacturer who is required to production verify under this part shall include in the owner's manual or in other information supplied to the ultimate purchaser the following statement:

NOISE EMISSIONS WARRANTY

The manufacturer warrants to the first person who purchases this vehicle for purposes other than resale and to each subsequent purchaser that this vehicle was designed, built and equipped to conform at the time of sale to such first purchaser with all applicable U.S. EPA noise control regulations.

This warranty is not limited to any particular part, component or system of the vehicle. Defects in the design, assembly, or in any part, component, or system of the vehicle which, at the time of sale to such first purchaser, caused noise emission levels to exceed Federal standards are covered by this warranty for the life of the vehicle."

(b) Not later than the date of submission of the product verification report required by § 205.55-4, the manufacturer shall submit to the Administrator two (2) copies of the written noise emission warranty required by paragraph (a) of this section and two (2) copies of all other information provided to the ultimate purchaser which could reasonably be construed as impacting on the warranty.

(c) Not later than ten (10) days after dissemination, the manufacturer shall submit two (2) representative copies of all information of a general nature, or modifications thereto, which is provided to dealers, zone representatives, or other agents of the manufacturer regarding the administration and application of the noise emission warranty. Information regarding noise emission war-

ranty claims which is provided to a dealer or representative in response to a particular warranty claim or dealer inquiry is not considered to be information of a general nature, if such information does not receive broad dissemination to dealers.

(d) All information required to be forwarded to the Administrator pursuant to this section shall be addressed to:

Director, Mobile Source Enforcement Division (EN-340), U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460.

§ 205.58-2 Tampering.

(a) For each model year and for each configuration of vehicles covered by this part, the manufacturer shall submit to the Administrator a list of those acts which, in the manufacturer's estimation, might be done to the vehicle in use, on more than an occasional basis, and result in an increase in noise emissions above the standards prescribed in section 205.52. The manufacturer should indicate, wherever possible, the amount of this increase in noise level.

(b) The above information shall be submitted to the Administrator within adequate time prior to the introduction into commerce of each configuration to allow for the development and printing of tampering lists, as provided in paragraphs (c) and (d), below.

(c) On the basis of the above information, the Administrator will develop a list of acts which, in the Administrator's judgment, constitute the removal or rendering inoperative, other than for purposes of maintenance, repair, or replacement, of noise control devices or elements of design of the vehicle. This list shall be provided to the manufacturer and may be updated from time to time. The list shall be included in the statement to the ultimate purchaser as required by paragraph (d) (2) of this section. If the list is not provided by the Administrator within 30 days of the date on which the information required in paragraph (a) of this section is submitted, the manufacturer shall include only the statement in paragraph (d) (1) of this section until such time as the list has been provided and the owner's manual is reprinted for other purposes.

(d) The manufacturer shall include in the owner's manual the following information:

(1) The statement:

**TAMPERING WITH NOISE CONTROL SYSTEM
PROHIBITED**

Federal law prohibits the following acts or

the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

(2) The statement:

Among those acts presumed to constitute tampering are the acts listed below.

Immediately following this statement, the manufacturer shall include the list developed by the Administrator under paragraph (c) of this section.

(e) Any act included in the list prepared pursuant to paragraph (c) is presumed to constitute tampering; however, in any case in which a proscribed act has been committed and it can be shown that such act resulted in no increase in the noise level of the vehicle or that the vehicle still meets the noise emission standard of § 205.52, such act will not constitute tampering.

(f) The provisions of this section are not intended to preclude any State or local jurisdiction from adopting and enforcing its own prohibitions against the removal or rendering inoperative of noise control systems on vehicles subject to this part.

(g) All information required by this section to be furnished to the Administrator shall be sent to the following address:

Director, Mobile Source Enforcement Division (EN-340), U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460.

§ 205.58-3 Instructions for maintenance, use and repair.

(a) (1) The manufacturer shall provide to the ultimate purchaser of each vehicle covered by this subpart written instructions for the proper maintenance, use and repair of the vehicle in order to provide reasonable assurance of the elimination or minimization of noise emission degradation throughout the life of the vehicle.

(2) The purpose of the instructions is to inform purchasers and mechanics of those acts necessary to reasonably assure that degradation of noise emission level is eliminated or minimized during the life of the vehicle. Manufacturers should prepare the instructions with this purpose in mind. The instructions should be clear and, to the extent practicable, written in nontechnical language.

(3) The instructions must not be used to secure an unfair competitive advantage. They should not restrict replacement equipment to original equipment or service to dealer service. Manufacturers who so restrict replacement equipment should be prepared to make public any performance specifications on such equipment.

(b) For the purpose of encouraging proper maintenance, the manufacturer shall provide a record or log book which shall contain a schedule for the performance of all required noise emission control maintenance. Space shall be provided in this record book so that the purchaser can note what maintenance was done, by whom, where and when.

(c) Not later than the date of submission of the production verification report required by § 205.55-4, the manufacturer shall submit to the Administrator two (2) copies of the maintenance instructions (including the record book) required by paragraphs (a) and (b) of this section.

(d) (1) The Administrator will require modifications to the instructions if they are not both necessary and reasonable.

(2) The manufacturers may file a petition for review of such modifications.

(3) The manufacturer's proposed instructions shall be provided to the consumer pursuant to § 205.58-3(a) (i) pending review of the proposed instructions by the Agency.

(e) Information required to be submitted to the Administrator pursuant to this section shall be sent to the following address:

Director, Mobile Source Enforcement Division (EN-340), U.S. Environmental Protection Agency, 401 M St., SW., Washington, D.C. 20460.

Six copies of all submissions are required.

§ 205.59 Recall of noncomplying vehicles.

(a) Pursuant to section 11(d) (1) of the Act, the Administrator may issue an order to the manufacturer to recall and repair or modify any vehicle distributed in commerce not in compliance with this subpart.

(b) A recall order issued pursuant to this section shall be based upon a determination by the Administrator that vehicles of a specified category or configuration have been distributed in commerce which do not conform to the regulations. Such determination may be based on:

(1) A technical analysis of the noise emission characteristics of the category or configuration in question; or

(2) Any other relevant information, including test data.

(c) For the purposes of this section, noise emissions may be measured by any test prescribed in § 205.54 for testing prior to sale or any other test which has been demonstrated to correlate with the prescribed test procedure.

(d) Any such order shall be issued only after notice and an opportunity for a hearing.

(e) All costs, including labor and parts, associated with the recall and repair or modification of non-complying vehicles under this section shall be borne by the manufacturer.

(f) This section shall not limit the discretion of the Administrator to take any other actions which are authorized by the Act.

APPENDIX I

TABLE 1.—Sample size code letters

Batch size	Code letter
4 to 8-----	A
9 to 15-----	B
16 to 25-----	C
25 and larger-----	D

TABLE II.—*Sampling plans for inspecting batches*

Sample size code letter	Test sample	Test sample size	Cumulative test sample size	Batch inspection criteria	
				Acceptance No.	Rejection No.
A.....	1st.....	4	4	0	1
B.....	1st.....	3	3	0	1
C.....	1st.....	3	3	0	2
	2d.....	3	6	1	2
D.....	1st.....	2	2	(¹)	2
	2d.....	2	4	(¹)	2
	3d.....	2	6	0	2
	4th.....	2	8	0	3
	5th.....	2	10	1	3
	6th.....	2	12	1	3
	7th.....	2	14	2	3

¹ Batch acceptance not permitted at this sample size.

TABLE III.—*Batch sequence plans*

Sample size code letter	Number of batches	Cumulative number of batches	Sequence inspection criteria	
			Acceptance No.	Rejection No.
A.....	2	2	1	(²)
	2	4	2	4
	2	6	3	5
	2	8	4	5
B.....	2	2	0	(²)
	2	4	1	4
	2	6	2	5
	2	8	4	6
	2	10	5	6
	2	12		
C.....	2	2	(¹)	2
	2	4	0	2
	2	6	0	3
	2	8	1	3
	2	10	2	4
	2	12	3	4
D.....	2	2	0	2
	2	4	1	3
	2	6	2	4
	2	8	3	4

¹ Batch sequence acceptance not permitted for this number of batches.

² Batch sequence rejection not permitted for this number of batches.

TABLE IV.—Recommended format for vehicle noise data sheet

Test Report Number: _____ Manufacturer: _____
 Vehicle: _____ VIN: _____
 Trade Name: _____ Other Reference No.: _____
 Model Year: _____ Category Identification: _____
 Configuration Identification: _____
 Test Site Identification and Location: _____

INSTRUMENTATION:

Microphone Manufacturer: _____ Model No.: _____ Serial No.: _____
 Sound Level Manufacturer: _____ Model No.: _____ Serial No.: _____
 Calibrator Manufacturer: _____ Model No.: _____ Serial No.: _____
 Other and Manufacturer: _____ Model No.: _____ Serial No.: _____

TEST DATA:

Approach Gear: _____ Date of Test: _____
 Approach RPM: _____ Temp: _____ Wind: _____
 Acceleration Test: _____
 Deceleration Test: _____

Acceleration Test

Run No.	1	2	3	4	5
dBA Left					
dBA Right					

Highest RPM attained in End Zone

Calculated Sound Pressure _____ dBA

Deceleration Test with Exhaust Brake Applied

Run No.	1	2	3	4	5
dBA Left					
dBA Right					

Calculated Sound Pressure _____ dBA

TEST Personnel: _____
 (Name)

Recorded By: _____ Date: _____
 (Signature)

Supervisor: _____ Title: _____
 (Signature)

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