

Supporting Statement for

Information Collection Request

Notice of Proposed Rulemaking

**Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty
Engines and Vehicles - Phase 2**

EPA ICR Tracking Number 2394.04

Office of Transportation and Air Quality

Office of Air and Radiation

U.S. Environmental Protection Agency

and

National Highway Traffic Safety Administration

U.S. Department of Transportation

I. Identification of the Information Collection

A. Title and Number of the Information Collection

Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2, EPA ICR Number 2394.04, OMB Control Number 2060-0678.

B. Short Characterization

The Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) are proposing Phase 2 standards to address greenhouse gas (GHG) emissions and fuel consumption in the medium- and heavy-duty (HD) trucking sector. As a result of these proposed standards, HD engine and HD vehicle manufacturers would be subject to new testing, reporting, recordkeeping, and labeling requirements. The paperwork and cost burdens associated with these requirements are identified in this ICR, which is an extension of a currently approved ICR that covers the HD Phase 1 program. The cost burden is also adjusted to account for amendments made to the Phase 1 program which reduce final reporting provisions.

EPA and NHTSA are each proposing rules to establish a comprehensive Phase 2 Heavy-Duty National Program that will reduce GHG emissions and fuel consumption for new HD vehicles. This technology-advancing program would phase in over the long-term, beginning in the 2018 model year and culminating in standards for model year 2027, responding to the President's directive on February 18, 2014, to develop new standards that will take us well into the next decade. NHTSA's proposed fuel consumption standards and EPA's proposed carbon dioxide (CO₂) emissions standards are tailored to each of four regulatory categories of heavy-duty vehicles: (1) Combination Tractors; (2) Trailers used in combination with those tractors; (3) Heavy-duty Pickup Trucks and Vans; and (4) Vocational Vehicles. The proposal also includes separate standards for the engines that power combination tractors and vocational vehicles. Certain proposed requirements for control of GHG emissions are exclusive to EPA programs. These include EPA's proposed hydrofluorocarbon standards to control leakage from air conditioning systems in vocational vehicles, and EPA's proposed nitrous oxide (N₂O) and methane (CH₄) standards for heavy-duty engines.

As a result, the standards that support the HD Phase 2 National Program address the complete vehicle, through complementary engine and vehicle standards. Consistent with the structure of this program and the Phase 1 program, the testing, reporting, labeling and recordkeeping requirements described in this ICR cover heavy-duty gas and diesel engines, and four regulatory categories of heavy-duty vehicles, including combination tractors, combination trailers, vocational vehicles and heavy-duty pickup trucks and vans.

Under the HD Phase 2 National Program these manufacturers would be subject to new CO₂ and fuel consumption standards. As their vehicles are not directly responsible for N₂O and CH₄ emissions, trailer, vocational vehicle chassis and combination tractor manufacturers are not subject to the new standards for these pollutants. To demonstrate compliance with the Phase 2 CO₂ and fuel consumption standards, vocational vehicle chassis and tractor manufacturers would

need to modify the testing programs, reporting, labeling and recordkeeping systems developed for the Phase 1 HD National Program. Trailer manufacturers, who would be subject to CO₂ and fuel consumption standards for the first time, would have to put in place entirely new testing programs, reporting, labeling, and recordkeeping systems.

The proposed Phase 2 program sets new CO₂, fuel consumption, and N₂O standards with the following implementation years, as shown in Table 1.

Table 1 Implementation Years for Proposed Phase 2 Standards

Regulatory Category	EPA GHG Standards	NHTSA Fuel Consumption Standards
HD Engines	2021, 2024, 2027 Model Years	2021, 2024, 2027 Model Years
HD Pickups and Vans	Phase in 2021 through 2027 Model Years	Phase in 2021 through 2027 Model Years
Vocational Vehicles	2021, 2024, 2027 Model Years	2021, 2024, 2027 Model Years
Tractors	2021, 2024, 2027 Model Years	2021, 2024, 2027 Model Years
Trailers	2018, 2021, 2024, 2027 Model Years	2018 (voluntary) 2021, 2024, 2027 Model Years (mandatory)

For model years 2018 through 2020, NHTSA’s fuel consumption standards for trailers are voluntary for manufacturers. For the purpose of determining the cost burden to manufacturers and the government, all estimates are derived assuming 100 percent participation of all regulated entities during the voluntary compliance model years.

Notably, to streamline the reporting process and reduce industry burden for all manufacturers, EPA and NHTSA established a harmonized approach by which all information for the HD Phase 1 and Phase 2 National Programs is submitted by manufacturers through the EPA’s database system. Both EPA and NHTSA have access to data in this database system, which also helps the agencies to efficiently review, process, and store the heavy duty data relevant to each agency’s program requirements.

Over the years 2017 through 2019, 12 engine manufacturers and 143 vehicle manufacturers will submit a combined 3-year total of 1,128 applications (72 heavy-duty pickup truck, 324 heavy-duty engine, 180 vocational vehicle, 96 combination tractor, and 456 trailer applications) to certify their products and respond to the information collection activities detailed in the HD National Program.

The manufacturers regulated under this program would need to: 1) submit applications to certify vehicles; 2) submit reports with early estimates to demonstrate their compliance plans; 3) conduct compliance testing; 4) label certified vehicles; 5) provide final year-end-reports with compliance test results; and 6) retain records of information submitted to the agencies, which will be maintained for eight years. A manufacturer would need to send an application for a certificate of conformity and gain approval by EPA before it can legally introduce any vehicle or engine into commerce in the U.S. To ensure compliance with the Clean Air Act (CAA) and the Energy Independence and Security Act (EISA), EPA and NHTSA would annually audit

manufacturers' submitted information and compliance test results and conduct inspections and confirmatory testing on vehicles. NHTSA would conduct such inspections and confirmatory testing on vehicles prior to first sale. Manufacturer test results would be used by EPA to perform confirmatory testing on a sufficient number of engines and vehicles to confirm manufacturer-reported results. Limited equipment testing and modeling runs would also be performed by NHTSA to confirm manufacturer test results.

The testing data submitted by manufacturers are needed for EPA and NHTSA to verify that manufacturers have selected the proper engines and vehicles, and conducted the testing necessary to demonstrate that their equipment complies with the new GHG emissions and fuel consumption standards.

The first year the Phase 2 program becomes effective is in the calendar year 2018. For the years 2017, 2018, and 2019, these collection activities are estimated to impose annual costs of \$8 million and an annual labor hour burden of 62,400 hours.

II. Need for and Use of the Collection

A. Need/Authority for the Collection

Under Title II of the Clean Air Act (42 U.S.C. 7521 et seq.), EPA is charged with issuing certificates of conformity for motor vehicle designs and engines that comply with applicable emission standards set under section 202(a)(1) of the Act, such as those for CO₂, N₂O, and CH₄ in the final regulation. This authority was clarified in the Supreme Court's decision State of Massachusetts v. EPA, 549 U.S. 497 (2007), holding that greenhouse gases are pollutants under the Clean Air Act.

Specifically, under Section 206(a) of the CAA (42 USC 7521):

“The Administrator shall test, or require to be tested in such manner as he deems appropriate, any new motor vehicle or new motor vehicle engine submitted by a manufacturer to determine whether such vehicle or engine conforms with the regulations prescribed under §202 of this Act. If such vehicle or engine conforms to such regulations, the Administrator shall issue a certificate of conformity upon such terms, and for such period (not in excess of one year) as he may prescribe.”

Pursuant to 49 U.S.C. 32902(k), NHTSA requires that manufacturers comply with fuel economy and consumption standards:

“...the Secretary, in consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency, by regulation, shall determine in a rulemaking proceeding how to implement a commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency improvement program designed to achieve the maximum feasible improvement, and shall adopt and implement appropriate test methods, measurement metrics, fuel economy standards, and compliance and enforcement protocols that are appropriate, cost-

effective, and technologically feasible for commercial medium- and heavy-duty on-highway vehicles and work trucks. The Secretary may prescribe separate standards for different classes of vehicles under this subsection.”

In addition to test results, as part of their application for a certificate of conformity, under CAA §217, manufacturers are required to pay an application fee when applying for a vehicle or engine certificate. At this time, the exact costs associated with the heavy-duty vehicle compliance are not known. The agency is not modifying its fees provisions in this proposed rule and is determining how to appropriately address this issue in the future. When EPA finalizes a cost assessment of its compliance program, it will amend its fees regulations to include any warranted new costs.

EPA and NHTSA also established an Averaging, Banking and Trading (ABT) program, as outlined in 40 CFR parts 1036.701 and 1037.701, and in 49 CFR part 535.7. Engine and vehicle manufacturers covered by the HD Phase 1 and 2 National Program have the option to participate in this ABT program. The agencies’ ABT programs, and others like it, are designed to enhance compliance flexibility and reduce the burden on affected manufacturers, without compromising the expected emissions benefits derived from EPA’s emissions standards and NHTSA’s fuel consumption standards.

EPA’s Phase 2 GHG standards for HD engines and vehicles amend 40 CFR part 86 part 1036 (engines), and part 1037 (vehicles). NHTSA’s Phase 2 fuel consumption standards for HD engines and vehicles amend 49 CFR parts 523, 534, and 535. These regulations are not attached to this statement due to their length and technical nature.

The testing data submitted by manufacturers are needed for EPA and NHTSA to verify that manufacturers have selected the proper engines and vehicles, and conducted the testing necessary to demonstrate that their equipment complies with the new GHG emissions and fuel consumption standards.

Under the proposed Phase 2 rules, manufacturers of heavy-duty pickup trucks and vans would submit “pre-model year reports” to satisfy EPA’s and NHTSA’s requirements for receiving compliance reports in advance of the model year. These pre-model reports for heavy duty pickup trucks and vans are similar to early model year compliance reports that are required for light duty vehicles.

For engine and vehicle manufacturers, the agencies are using the manufacturer’s applications for certificates of conformity to obtain early model production estimates and related data. The agencies treat information submitted in the applications as a manufacturer’s demonstration of providing early compliance information, similar to the pre-model year report submitted for heavy-duty pickup trucks and vans. A summary of that information can be found in IV.C.

Once the engines and vehicles have been produced, EPA and NHTSA would use the test data and the data included in the final reports and certification applications to support various enforcement actions, such as selective enforcement audits, inspections and confirmatory

compliance testing.

As noted, the HD National Program offers manufacturers an opportunity to participate in an Averaging, Banking and Trading (ABT) program and other regulatory flexibilities that allow manufacturers to generate emission and fuel consumption credits. For manufacturers that choose to participate and take advantage of these flexibilities, EPA and NHTSA collect data to ensure that allowable emission and fuel consumption credits are properly allocated, traded and applied. These data are provided in a final production report and compared against production estimates submitted in the pre-model year report and certification applications.

Throughout the year, manufacturers may also be required to report various submissions to the agencies to comply with other various aspects of the rule. This other data collected, such as notifications that a manufacturer intends to participate in the ABT program or that a vehicle qualifies for an exclusion are needed so that the agencies can ensure that manufacturers are complying with the HD National Program's regulatory provisions. The agencies would also continue to require manufacturers to submit a credit plan whenever a credit transaction is required.

All test and ABT data will be received and used by EPA's Compliance Division (CD) within the agency's Office of Transportation and Air Quality. Other EPA offices and divisions also may access the data to assess the effectiveness of the HD Phase 2 National program. Non-confidential portions of the information submitted to CD are available to and may be used by importers, engine users, environmental groups, members of the public and state and local government organizations. Information would be shared with NHTSA as needed. The NHTSA Office of Vehicle Safety Compliance would use the data for compliance purposes and the Office of Rulemaking would use it to measure the effectiveness of fuel consumption standards and in future rulemaking efforts.

III. Nonduplication, Consultations and Other Collection Criteria

A. Nonduplication

This proposed rulemaking contains specific recordkeeping provisions in 40 CFR 1036.205 and 1037.205, which are summarized in Table 3. NHTSA's proposed rule contains the same recordkeeping requirement at 49 CFR 535.8 that is currently in EPA's regulations requiring manufacturers to keep records with equivalent fuel consumption information. Because of its specialized (and sometimes confidential) nature, and the fact that it is submitted jointly with NHTSA prior to the start of vehicle or engine production, the information collected is not available from any other source. The agencies developed this rulemaking to build on existing test procedures and reporting structures where possible to prevent duplication

B. Public Notice Required Prior to ICR Submission to OMB

Through the proposed rulemaking that EPA and NHTSA are issuing, EPA is seeking public comment on the testing, reporting, and recordkeeping burdens outlined in this ICR and associated with demonstrating compliance with the proposal's GHG and fuel consumption

standards. To comment on the agencies' needs for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, the agencies have established public dockets for this proposal, which includes this ICR, under Docket ID numbers EPA-HQ-OAR-2014-0827 and NHTSA-2014-0132. The final rules will respond to any OMB or public comments on the information collection requirements contained in the proposal.

C. Consultations

The proposed regulations, including the cost analysis that is reflected in this ICR, were developed based on experience with the Phase 1 regulations developed in the past in close consultation with the affected industry. Prior to publication of the proposal, EPA and NHTSA also met extensively with individual manufacturers, groups of manufacturers, industrial trade associations, public interest groups, environmental and professional industry organizations.

In preparing this ICR submission, the agencies considered these discussions. Following the publication and formal request for comment on the Phase 2 proposal, EPA and NHTSA will further develop the testing, reporting and recordkeeping requirement included in this ICR, as needed.

D. Effects of Less Frequent Collection

The CAA states that emission certification must be done on a yearly basis (CAA 206(a)(1)), coinciding with the industry's 'model year'. Major product changes typically occur at the start of a model year. For these reasons, a collection frequency of less than a model year is not possible. However, when an engine or vehicle design is "carried over" to a subsequent model year, the amount of new information required is substantially reduced. Existing regulations also call for an end-of-year report, with final production numbers, and the HD Phase 2 National Program conforms to this existing requirement as well.

E. General Guidelines

Under 40 CFR 1036.250 and 1037.250 of the proposed regulations, copies of all documents sent to EPA including pre-model reports, certification applications, ABT reports, and final reports, must be kept and maintained for eight years. These records may be stored in any format and on any media, as long as they are organized and can be sent promptly to EPA, if requested. These recordkeeping requirements stem, in part, from the statutory requirement to warrant some items for long periods of time. Manufacturers also must comply with requirements to submit to an EPA audit, and recall vehicles and engines failing to meet emission standards during their useful lives. Other data, (such as routine emissions tests, i.e.: test cell temperatures and relative humidity readings, etc.) need to be kept for only one year after a certificate of conformity is issued.

Manufacturers would be required to submit confidential business information such as sales projections and certain sensitive technical descriptions (see section 4(b)(i) for reference). This information is kept confidential in accordance with the Freedom of Information Act, EPA

regulations at 40 CFR part 2, and class determinations issued by EPA's Office of General Counsel. Also, non-proprietary information submitted by manufacturers is held as confidential until the specific vehicle or engine to which it pertains is available for purchase. No other general guideline is exceeded by this information collection.

F. Confidentiality

Manufacturers are allowed to assert a claim of confidentiality over information provided to EPA. Confidentiality is provided in accordance with the Freedom of Information Act and EPA regulations at 40 CFR part 2. For further detail, refer to section III.E, above.

G. Sensitive Questions

No sensitive questions are asked in this information collection. This collection complies with the Privacy Act and OMB Circular A-108.

IV. Respondents and Information Requested

A. Respondents/NAICS Codes

Respondents are manufacturers of engines and vehicles within the North American Industry Classification System (NAICS) and use the coding structure as defined by NAICS. 336111, 336112, 333618, 336120, 541514, 811112, 811198, 336111, 336112, 422720, 454312, 541514, 541690, 811198, 333618, 336510, for Motor Vehicle Manufacturers, Engine and Truck Manufacturers, Truck Trailer Manufacturers, Commercial Importers of Vehicles and Vehicle Components, and Alternative Fuel Vehicle Converters and Manufacturers.

B. Information Requested

All manufacturers would be required to provide good faith estimates of production volumes and related data in either a pre-model year report or as part of their application for a certificate of conformity. Data included in the pre-model year report and application will provide the best estimate of the vehicles and engines that a manufacturer will produce for the year and are needed to help construct an annual testing plan. Information that manufacturers would include in their pre-model year reports and certification applications is outlined in the sections below.

NHTSA would require manufacturers to determine equivalent fuel consumption values from CO₂ emissions test results and provide the values along with the applications for certification submitted to EPA. Manufacturers would submit their pre-model year reports, applications, test data and related information to EPA electronically via a single database system that NHTSA will access as needed.

In order to obtain a certificate of conformity, all manufacturers would complete a compliance demonstration, normally consisting of test data showing that their engines or vehicles meet the rule's emission standards and other regulatory requirements. For testing

purposes, manufacturers typically establish either “test groups” or engine and vehicle “families” that share certain design and emissions characteristics.

Specific criteria for establishing these test groups and families for each regulatory category is outlined in the rule at 40 CFR 86.1827 (pickup trucks and vans), 40 CFR 1036.230 (engines), and 40 CFR 1037.230 (trailers, vocational vehicles and combination tractors). Within the families and test groups a manufacturer establishes, engines and vehicles are selected and subject to actual testing.

In addition to test results and related documents that demonstrate compliance, an application for a certificate of conformity describes other key aspects of the manufacturer’s proposed product line, such as controls put in place to reduce GHG emissions and fuel consumption, warranty and service information, and emission control information labels.

All manufacturers would be also required to submit final reports that will be used to reconcile initial production estimates with final year figures. For manufacturers not participating in ABT, the final reports are required to assess compliance. The requirements for final reports for engine, HD pickup truck, vocational chassis, and tractor manufacturers in years 2017 through 2019 would be identical to the Phase 1 requirements except for an allowance to streamline reporting for tractor, vocational vehicle, and engine manufacturers with the option for these manufacturers to provide only one final ABT report, 90-days after the end of each model year. The final report requirements for trailer manufacturers would begin with the 2018 model year. A summary of the data included in a final report is listed in Table 2. Tractor, vocational, HD pickup truck and van, and engine manufacturers also must state whether they intend to participate in the Averaging, Banking and Trading (ABT) program that EPA and NHTSA have proposed for these regulatory categories. Separate final reports also are necessary for the ABT program since they are a resource for identifying emissions and fuel consumption credits and deficits. Box trailer manufacturers that choose to participate in the proposed averaging program and would also be required to submit a separate averaging report.

Table 2 Summary of Required Information for Final Reports

Vehicle family or test group designation and averaging set
Vehicle emissions and fuel consumption standards including any alternative standards used
Vehicle family FELs
Final production volumes
Certified test cycles
A credit plan identifying the manufacturers actual credit balances, credit flexibilities, credit trades and a credit deficit plan if needed demonstrating how it plans to resolve any credit deficits that might occur for a model year within a period of up to three model years after that deficit has occurred
A plan describing the vehicles that were exempted such as for off-road or small business purposes
A plan describing any alternative fueled vehicles that were produced for the model year identifying the approaches used to determinate compliance and the production volumes

In addition, all manufacturers would be required to retain records per the provisions in 40 CFR parts 86, 1036, and 1037, and 49 CFR Part 535.8 as outlined in Table 3. The record retention requirements for engine, HD pickup truck, vocational chassis, and tractor manufacturers in years 2017 through 2019 would be identical to the Phase 1 requirements. The record retention requirements for trailer manufacturers would be required beginning with the 2018 model year.

Table 3 Key Recordkeeping requirements, HD National Certification Program

Information Item ^a	Engine Manufacturers	Vehicle Manufacturers ^b	Pickup Truck and Van Manufacturers
General records:	40 CFR	40 CFR	40 CFR
Identification and description of all engines and vehicles for which testing is required	1036.205 and 1036.735	1037.205 and 1037.735	86.1844-01
Description of emission control system			
Description of test procedures and supporting documents demonstrating compliance			
Individual Records:	40 CFR	40 CFR	40 CFR
Copies of all applications submitted	1036.250	1037.250	86.1844-01
Test records, instructions and other data provided to or received from other manufacturers (for example: emissions-related engine installation instructions, instructions for air conditioning installation, etc.)			
A complete record of all emission tests performed			

A complete record of all model inputs			
Record and description of each test performed to diagnose engine and vehicle emissions			

Notes:

^a Records are to be kept for eight years.

^b Part 1037 covers Tractors, Trailers, and Vocational Vehicles

The proposed Phase 2 rule has an initial effective date of model year 2018. Under this timeframe, manufacturers are expected to conduct testing and submit their applications and other pre-production documents to EPA and NHTSA in 2017. The time horizon of this ICR is intended to cover the annualized impacts of the rule at the time that manufacturers initiate their testing and compliance activities.

C. Data Items

In addition to the data items described above, brief summaries of the data items the agency collects from engine manufacturers and the four regulatory categories of the heavy duty vehicle manufacturers covered by the rules are provided below. Detailed lists of these data items are given in Table 4 through Table 11.

1. Heavy Duty Pick Up Trucks and Vans

The vast majority of heavy duty pickup trucks and vans are designed, manufactured and sold by manufacturers as complete vehicles, and many of these truck and van models already are certified to vehicle-based emission standards for criteria pollutants. Further, these heavy duty truck/van models typically are based on higher sales volume light duty truck/van designs and models, which already are subject to GHG emission and fuel economy standards under the joint light-duty vehicle program promulgated by EPA and NHTSA in March 2010.

Thus, the HD national certification program closely tracks existing test procedures and reporting programs already in place for vans and pickup trucks. For example, the test procedures, GHG and fuel consumption standards for heavy duty pickup trucks and vans apply to the complete vehicle, just as similar procedures and standards apply to complete light duty trucks and vans (there are no separate engine and vehicle requirements, such as those that exist for vocational vehicles and combination tractors).

Using test procedures, reporting and compliance requirements from already established and proven test protocols and programs that are applicable to HD pickup trucks and vans helps to minimize test costs and reporting burdens for this category of the HD Phase 1 and Phase 2 National Programs. Burdens are further reduced for HD pickup truck and van manufacturers because manufacturers already have invested in test facilities and equipment for the light duty trucks and vans that they also produce.

(a) Phase 1 Data Items: HD Pickups and Vans

The HD Phase 1 standards for HD trucks and vans were expected to create new testing

burdens and reporting requirements. Specifically, EPA and NHTSA established weight-based attributes, namely payload and towing capacity, which support the GHG emission and fuel consumption limits for this vehicle category. Manufacturers are required to apply these attributes when establishing vehicle test groups to demonstrate compliance with the CO₂ and fuel consumption standards. These attributes also are factored into the production volume-weighted calculation of a manufacturer’s annual fleet average compliance requirement.

For demonstrating compliance with the N₂O and CH₄ standards, EPA believes that the current test group concept used by pickup truck and van manufacturers is appropriate because the technologies employed to control N₂O and CH₄ emissions are generally the same as those used to control criteria pollutants.

However, by applying weight-based attributes to establish CO₂ and fuel consumption standards for HD pickup trucks and vans, EPA and NHTSA expect that, manufacturers will find it in their best interest to test multiple vehicle configurations with a given test group to accurately estimate the fleet average CO₂ emission levels. Ultimately these additional tests and estimates are necessary to demonstrate compliance with both Phase 1 and Phase 2.

EPA is requiring manufacturers to meet the air conditioning leakage standard as part of the HD Phase 1 program. To demonstrate compliance, the vehicle manufacturer must calculate the percent leakage rate of the hydrofluorocarbon (HFC) emissions from the air conditioning system by dividing the total leakage rate in grams per year by the refrigerant capacity as specified in 40 CFR 1037.115(c). The agency has adopted a test procedure for determining leakage rate that is consistent with the one adopted for Light Duty GHG, and therefore familiar to the HD pickup truck and van manufacturers.

**Table 4 Required Information for Pre-Model Year Reports:
Heavy-duty Pickup Truck and Van Manufacturers**

A list of each unique vehicle configuration included in the manufacturer’s fleet describing the make and model designations, attribute based-values (GVWR, GCWR, Curb Weight and drive configurations) and standards
The emission and fuel consumption fleet average standard derived from the unique vehicle configurations
The estimated vehicle configuration, test group and fleet production volumes
Expected CO ₂ , N ₂ O, CH ₄ , and HFC emissions and fuel consumption test group results and fleet average performance
A statement declaring whether the manufacturer will use fixed or increasing standards; acknowledging that once selected, the decision cannot be reversed and the manufacturer must continue to comply with the same alternative for subsequent model years
A statement declaring whether the manufacturer chooses to comply voluntarily with NHTSA’s fuel consumption standards for model years 2015 through 2018. The manufacturers must acknowledge that once selected, the decision cannot be reversed and the manufacturer will continue to comply with the fuel consumption standards for subsequent model years;
The list of Class 2b-3 cab-complete vehicles and the method use to certify, as vocational vehicles and engines, or as complete pickups and vans identifying the most similar complete vehicles used to derive the target standards and performance test results

The list of Class 2b-3 incomplete vehicles and the method use to certify, as vocational vehicles and engines, or as complete pickups and vans identifying the most similar complete vehicles used to derive the target standards and performance test results
The list of Class 4 through 6 incomplete and complete vehicles and the method used to certify, as vocational vehicles and engines, or as complete pickups and vans identifying the most similar complete vehicles used to derive the target standards and performance test results
List of loose engines included in the heavy-duty pickup and van category and the list of vehicles used to derive target standards
Copy of any notices a vehicle manufacturer sends to the engine manufacturer to notify the engine manufacturers that their engines are subject to emissions and fuel consumption standards and that it intends to use their engines in excluded vehicles
A credit plan identifying the manufacturers estimated credit balances, planned credit flexibilities (i.e., credit balances, planned credit trading, innovative, advanced and early credits and etc.) and if needed a credit deficit plan demonstrating how it plans to resolve any credit deficits that might occur for a model year within a period of up to three model years after that deficit has occurred

For the purposes of this ICR, the test data accompanying these applications will include results from coastdown and chassis tests. HD pickup trucks and vans also are subject to HFC leakage, N₂O, and CH₄ standards and their applications will need to demonstrate how they are meeting the standards. The testing requirement costs are identified as the following in Table 16:

- Test/Gather CO₂, N₂O, CH₄, and HFC emission data on test vehicles
- Coastdown test
- Analyze CO₂, N₂O, CH₄, and HFC data to determine compliance

As shown in Table 16, based on these estimates, EPA and NHTSA expect to receive a total of 24 applications for certificates of conformity each year from the heavy-duty pickup truck and van regulatory category. Because the manufacturers of heavy-duty pickup trucks and vans have recordkeeping systems in place for the existing criteria pollutant requirements, the agencies did not include a recordkeeping burden in this ICR. The requirements to develop the application for certification are identified as the following in Table 16:

- Review of regulations
- Information technology upgrade to track GHG emissions (CO₂, N₂O, CH₄, and HFC) within the existing systems
- Prepare and submit certification application (including carryover applications)
- Collect and submit data for ADFE model
- Prepare and review GHG compliance plan
- End of year and final production reports

(b) Phase 2 Data Items: HD Pickups and Vans

The agencies are not proposing to require any new data items to be collected or reported in MY 2020 and beyond for these vehicle manufacturers.

2. Engine Manufacturers

For engine manufacturers, the information and reporting burden associated with the proposed Phase 2 National HD Program occur within the context of EPA's existing engine certification program for controlling criteria pollutants and the HD Phase 1 National Program. In constructing a program to address GHG pollutants, EPA built upon this existing infrastructure, thus creating minimal new certification testing and reporting requirements for engine manufacturers for Phase 2.

(a) **Phase 1 Data Items: HD Engines**

The agencies developed the GHG certification by building on the existing criteria pollutant certification template. The Phase 1 rule directs engine manufacturers to use the same selection criteria, as outlined in 40 CFR part 86, subpart A, to define a single engine family designation for both criteria pollutant and GHG emissions.

The Phase 1 requirements for engine manufacturers' application for certification in model years 2017-2019 are listed in Table 5 and Table 6. The majority of these requirements would be reported to the agencies through the HD engine certification template provided to manufacturers.

Table 5 Engine Manufacturers 40 CFR 1036.205

Description of engine families as related to requirements for GHG standards, including CO ₂ , CH ₄ and N ₂ O, as applicable
Description of emission control system, including auxiliary-emission control devices to be installed on production vehicles
Description of test engines selected for testing and rationale for selection
Description of test procedures and equipment, including alternate tests if applicable
Instructions for Engine Installation
Describe Label Information
Engine placement (combination tractors, vocational vehicles)
Intent to participate in Averaging, Banking & Trading and/or other available emissions credit programs
Family Certification Limits
Family Emission Limits
Statement of Compliance
Good-faith estimates of U.S. production volumes
Final production reports
Amendment to certification application
Name of U.S.-based service agent

Table 6 Summary of Additional Information Required for Compliance - Engines

Submission	Applies to	Required Submissions Date	EPA Regulation Reference	NHTSA Regulation Reference
Small business exemptions	Engine manufacturers meeting the Small Business Administration (SBA) size criteria of a small business as described in 13 CFR 121.201.	Before introducing any excluded vehicle into U.S. for commerce	40 CFR 1036.150	49 CFR 535.8

The existing HD criteria pollutant and HD GHG Phase 1 programs require engine labels per 40 CFR 86.007-35(a)(3).

Table 7 Key labeling requirements, HD Phase 2 National Certification Program

Information Item	Engine Manufacturers
Engine Labels	40 CFR 86.007-35(a)(3) and 1036.135
Additional Engine GHG Labeling:	
Identify the emission control system. Use terms and	40 CFR 1068.45

abbreviations as described in 40 CFR 1068.45 or other applicable conventions.	
Identify any limitations on your certification. For example, if you certify heavy heavy-duty engines to the CO ₂ standards using only transient cycle testing, include the statement “VOCATIONAL VEHICLES ONLY”.	40 CFR 1036.135
You may ask us to approve modified labeling requirements in this part 1036 if you show that it is necessary or appropriate. We will approve your request if your alternate label is consistent with the requirements of this part. We may also specify modified labeling requirement to be consistent with the intent of 40 CFR part 1037.	40 CFR 1036.135

Further, tests used today to demonstrate compliance with criteria pollutants in addition to Phase 1 GHG emissions and fuel consumption standards are all based on the Heavy Duty Federal Test Procedure (FTP) and Supplemental Engine Test (SET). However, depending on the type of vehicle in which the engine would be placed, manufacturers are required to identify relevant test results (steady state, transient or steady state and transient test results) in their certification application. The agencies calculated the burden of these activities in Table 17 as the “Testing/Gathering emission data on test vehicles” and “Analyze data to determine compliance” costs. The engine testing requirements for the Phase 2 amendment to the HD ICR in years 2017 through 2019 are identical to the testing requirements for Phase 1.

With the exception of these GHG certification requirements for heavy duty engines, the existing compliance structure that engine manufacturers use for criteria pollutants is also valid for demonstrating compliance with the GHG regulations. Specifically, engine manufacturers would utilize the emissions, warranty and service programs already in place for CO₂, CH₄ and N₂O as outlined in 40 CFR part 86.

As a consequence, the burden associated with submitting engine certification applications in years 2017 through 2019, final reports and other data is minimal. This information will simply be integrated into the existing data already submitted to EPA. This ICR assumes and reflects the cost burden to report this new information for 12 heavy-duty engine manufacturers that on average will submit nine applications each, for a total of 108 engine certification applications. The requirements to develop the application for certification are identified as the following in Table 17:

- Review of regulations
- Prepare and submit certification application (including carryover applications)
- Prepare and review GHG compliance plan
- End of year and final production reports
- Store, file and maintain records

(b) **Phase 2 Data Items: HD Engines**

Because the Phase 2 requirements for engine manufacturers’ applications for certification build on the Phase 1 requirements, the same data items listed above in Table 5 and Table 6 and Table 7 would also apply in model years 2020 and beyond. The proposed HD Phase 2 rule would also require new information that was not required Phase 1. The new information includes conducting tests to generate steady-state fuel maps to characterize engine performance for use with the GEM simulation tool. For manufacturers who elect to conduct powertrain testing, new dynamometer testing would be required to characterize the performance of engines that are integrated with transmissions. The burdens associated with these future requirements would potentially have both capital and operating expenses, depending on the current testing capacity of the manufacturer.

3. Vocational Vehicles and Combination Tractors

(a) Phase 1 Data Items: Vocational Vehicles and Tractors

Fuel consumption and emissions from vocational vehicles and combination tractors were regulated for the first time in Phase 1, and EPA recognizes that the HD National Program presents these segments with several testing, reporting, recordkeeping, and labeling requirements that will continue through model year 2019, as shown in Table 8 through Table 11. The reporting requirements for the application for certification are covered in the HD GHG Vehicle application for certification template.

Table 8 Required Information for Certification Applications: Vocational Vehicle Chassis and Tractor Manufacturers (49 CFR 553.8)

A description of the vehicle family’s specifications and other basic parameters of the vehicle’s design and emission controls. List the fuel type on which the vehicles are designed to operate (for example, ultra low-sulfur diesel fuel).
An explanation of how the emission control system operates. As applicable, describe in detail all system components for controlling greenhouse gas and evaporative emissions, including all auxiliary emission control devices (AECDs) and all fuel-system components will be installed on any production vehicle. Identify the part number of each component you describe. Treat as separate AECDs any devices that modulate or activate differently from each other.
For vehicles subject to air conditioning standards (this means tractors for Phase 1), include: (1) The refrigerant leakage rates (leak scores). (2) The refrigerant capacity of the air conditioning systems. (3) The corporate name of the final installer of the air conditioning system.
A description of any vehicles selected for testing and the reasons for selecting them.
A description of any test equipment and procedures that were used, including any special or alternate test procedures used (see § 1037.501).
A description of how any emission-data vehicle was operated before testing, including the duty cycle and the number of vehicle operating miles used to stabilize emission levels. Explain why this method of service accumulation was selected. Include a description of any scheduled maintenance performed.
A list of the specifications of any test fuel used to show that it falls within the required ranges

specified in 40 CFR part 1065.
Identification of the vehicle family's useful life.
The maintenance instructions and warranty statement that will be provided to the ultimate purchaser of each new vehicle (see §§ 1037.120 and 1037.125).
A description of the vehicle's emission control information label (see § 1037.135).
Identify the emission and fuel consumption standards or family emission limits (FEL)s to which you are certifying vehicles in the vehicle family. For families containing multiple subfamilies, this means that you must identify multiple CO ₂ and FC FELs. For example, you may identify the highest and lowest FELs to which any of your subfamilies will be certified and also list all possible FELs in between (which will be in 1 g/ton-mile and gallons/1,000 ton-mile increments).
Where applicable, identify the vehicle family's deterioration factors and describe how they were developed. Present any emission test data used for determining the deterioration factors (see §1037.241(c)).
Where applicable, state that you operated your emission-data vehicles as described in the application (including the test procedures, test parameters, and test fuels) to show you meet the requirements of this part.
Present evaporative test data to show your vehicles meet the evaporative emission standards specified in subpart B of this part, if applicable. Report all valid test results from emission-data vehicles and indicate whether there are test results from invalid tests or from any other tests of the emission-data vehicle, whether or not they were conducted according to the test procedures of subpart F of this part. You may be required to report these additional test results. You may be asked to send other information to confirm the validity of test data.
Report modeling results for ten configurations. Include modeling inputs and detailed descriptions of how they were derived. Unless otherwise specified, include the configuration with the highest modeling result, the lowest modeling result, and the configurations with the highest projected sales.
A description of all adjustable operating parameters (see § 1037.115), including production tolerances. It is not necessary to include parameters that do not affect emissions covered by the application. Include the following in your description of each parameter: (1) The nominal or recommended setting. (2) The intended physically adjustable range. (3) The limits or stops used to establish adjustable ranges. (4) Information showing why the limits, stops, or other means of inhibiting adjustment are effective in preventing adjustment of parameters on in-use vehicles to settings outside the intended physically adjustable ranges.
A statement that unconditionally certifies that all the vehicles in the vehicle family comply with the requirements of the Clean Air Act.
Good-faith estimates of U.S.-directed production volumes by subfamily. You may be required to describe the basis of your estimates.
Other information, such as information required by § 1037.725 if participating in the ABT program.
Other applicable information, such as information specified in this part or 40 CFR part 1068 related to requests for exemptions.
Name an agent for service located in the United States. Service on this agent constitutes service on the manufacturer or any of the manufacturer's officers or employees for any action by EPA or

otherwise by the United States related to the requirements of these regulations.

Table 9 Key Information Items Requested: HD National Certification Program: Vehicle Manufacturers (40 CFR 1037.205)

Description of vehicle families as related to requirements for GHG standards, including CO ₂ and HFC, as applicable
Description of emission control system, including auxiliary-emission control devices to be installed on production vehicles
Description of test vehicles selected for testing and rationale for selection
Description of test procedures and equipment, including alternate tests if applicable
Describe Label Information
Intent to participate in Average, Banking & Trading and/or other available emissions credit programs
Family Emission Limits
Statement of Compliance
Good-faith estimates of U.S. production volumes
Final production reports
Amendment to certification application
Name of U.S.-based service agent

Table 10 Summary of Additional Information Required for Compliance

Submission	Applies to	Required Submissions Date	EPA Regulation Reference 40 CFR part 1037	NHTSA Regulation Reference 49 CFR part 535
Small business exemptions	Vehicle manufacturers meeting the Small Business Administration (SBA) size criteria of a small business as described in 13 CFR 121.201.	Before introducing any excluded vehicle into U.S. commerce	§1037.150	§535.8
Approval of alternate methods to determine drag coefficients for tractors	Tractors meeting § 1037.106	EPA must be notified before the manufacturer submits its applications for certificates of conformity	§1037.150	§535.8
Air conditioning leakage	Vocational Vehicles excluded from §	EPA must be notified before the manufacturer	§1037.150	§535.8

exemption for vocational vehicles	1037.115	submits its application for certificates of conformity		
Off-road exemption	Manufacturers wanting to exclude tractors or vocational vehicles from vehicle standards	EPA must be notified before the manufacturer submits its applications for certificates of conformity	§1037.150	§535.8
Vocational Tractor	Manufacturers wanting to reclassify tractor as vocational tractors making them applicable to vocational vehicle standards	EPA must be notified before the manufacturer submits its application for certificates of conformity	§1037.150	§535.8
Exemption for electric vehicles	All electric vehicles are deemed to have zero exhaust emissions of CO ₂ , CH ₄ , and N ₂ O	End of December prior to model year	§1037.150	§535.8
Exemption from final reports	Manufacturers with surplus credits at the end of the model year	90-days after the calendar year ends		§535.8

Table 11 Key labeling requirements, HD National Certification Program

Information Item	Vehicle Manufacturers
Vehicle Labels:	40 CFR 1037.135
Assign each vehicle a unique identification number and permanently affix, engrave, or stamp it on the vehicle in a legible way. The vehicle identification number (VIN) serves this purpose.	40 CFR 1037.135
At the time of manufacture, affix a permanent and legible label identifying each vehicle.	40 CFR 1037.135
The label must include information contained in § 1037.135(c).	40 CFR 1037.135
You may add information to the emission control information label to identify other emission standards that the vehicle meets or does not meet (such as European standards). You may also add other information to ensure that the vehicle will be properly maintained and used.	40 CFR 1037.135
You may ask us to approve modified labeling requirements in this part 1037 if you show that it is necessary or appropriate. We will approve your request if your alternate label is consistent with the requirements of this part.	40 CFR 1037.135

Information Item	Vehicle Manufacturers
Additional Vehicle GHG Labeling:	
The original vehicle manufacturer of an off-road vocational vehicle must apply a removable label meeting the requirements of 40 CFR 1068.45 that identifies the corporate name of the original manufacturer and states that the vehicle is exempt under the provisions of § 1037.620. The name of the certifying manufacturer must also be on the label or, alternatively, on the bill of lading that accompanies the vehicles during shipment. The original manufacturer may not apply a permanent emission control information label identifying the vehicle's eventual status as a certified vehicle.	40 CFR 1037.615
You must include the following additional statement on the vehicle's emission control information label for a vocational tractor under §1037.135: "THIS VEHICLE WAS CERTIFIED AS A VOCATIONAL TRACTOR UNDER 40 CFR 1037.630."	40 CFR 1037.630

The requirements to develop the application for certification are identified as the following in Table 18 and Table 19:

- Review of regulations and guidance document
- Prepare and submit certification application (including carryover applications)
- Labeling requirements
- Final year production and ABT update
- Store, file, and maintain records

For both these vehicle categories, the Phase 1 CO₂ and fuel consumption standards focus on reductions that can be achieved primarily through changes to vehicle systems, such as tires, and some modifications to vehicle design. Both the fuel consumption and CO₂ standards are expressed in terms of moving a ton of freight over one mile: the fuel consumption standard is represented as gallons of fuel used to move one ton of freight (payload) 1000 miles, or gal/1000 ton-mile; and the CO₂ vehicle standards are represented as grams of CO₂ per ton-mile. Neither vocational vehicles nor combination tractors are subject to N₂O or CH₄ emission standards, but tractors equipped with air conditioning are subject to HFC leakage standards.

To help reduce testing and reporting burdens on vocational vehicle chassis and combination tractor manufacturers, EPA developed a vehicle simulation model, the Greenhouse gas Emissions Model (GEM) for the HD Phase 1 program. Phase 1 GEM was developed for manufacturers to demonstrate compliance with the new GHG standards. Under the rule, manufacturers evaluate and report CO₂ emissions and fuel consumption through a simulation of their vehicles using GEM. GEM is directly available to vocational vehicle chassis and combination tractor manufacturers as a download from the internet, at no cost.

Outputs from the GEM model also generate summary data that can be integrated into the application for a certificate of conformity.

EPA programmed the Phase 1 GEM with two sets of predefined parameters; one set of parameters for vocational vehicles, and a second set of parameters for combination tractors. Values for these predefined parameters are detailed in the rule, and include several key vehicle characteristics common to the vocational vehicle and combination tractor configurations subject to CO₂ and fuel consumption limits.

These characteristics include vehicle frontal area dimensions; total and payload weight; engine/transmission/wheel inertia, accessory load, axle base, tire radius, and engine fuel map, among others. Additional predefined inputs, unique to combination tractors, such as trailer tire coefficient of rolling resistance (Crr), also are included.

These preprogrammed inputs substantially reduce the testing burden on manufacturers of vocational vehicle chassis and combination tractors. For example, the GEM provides an alternative to chassis and other tests traditionally performed in a laboratory or on the road.

Manufacturers are required to test their vehicles, collect data and input at least two key data elements (based on testing) prior to running GEM. As discussed below, these two inputs are: 1) the coefficient of rolling resistance (Crr) of the vehicle's steer and drive tires; and (for combination tractors) 2) the aerodynamic drag (expressed as the vehicle's coefficient of drag area or "CdA") of a truck.

Additional inputs needed to run the GEM include basic information, such as manufacturer name, vehicle family and configuration, and model year. The Phase 1 testing requirement costs are identified as the following in Table 18 and Table 19:

- Tire testing
- Tractor coefficient of drag testing (using coastdown, wind tunnel, and CFD)
- Collect, input data for the Greenhouse Gas Emissions Model (GEM), and run model
- Analyze data to determine compliance

(i) Test Items: Tire Rolling Resistance

Both vocational vehicle chassis and combination tractor manufacturers will need to determine the rolling resistance of a vehicle's steer and drive tires from either their tire suppliers or by testing the tires using the test method adopted by the International Organization for Standardization, ISO 28580:2009.

Specifically, the ISO test must be conducted on three tire samples within each tire model one time each to account for some production variability. Details for conducting the ISO test are specified in the rule (§1037.520(c)). In summary, the average of the three tests would be the rolling resistance coefficient value for use as an input into the GEM. Whether tested in-house, or

contracted out, this ICR assumes a cost of \$300 for each tire model tested. The ICR further assumes that each manufacturer (vocational vehicle chassis and combination tractor) will need to test 10 tire models for each vehicle family or certification application that is submitted for the first year of certification. In subsequent years, the manufacturers will be able to carry-over tire test results so the agencies assumed one new tire will be tested for each application for each manufacturer.

Although the results of the tire tests do not need to be submitted as part of the certification application, the Crr is needed to run GEM and demonstrate compliance with the rule's CO₂ and fuel consumption standards. Test results are to be maintained for 8 years, as required under 40 CFR 1037.250.

(ii) Test Items: Aerodynamic Assessment

In addition to providing inputs on the rolling resistance of their steer and drive tires, combination tractor manufacturers must also establish the GEM inputs for the aerodynamic drag – expressed as the coefficient of drag or “CdA” – of their vehicles. Vocational vehicle chassis manufacturers are not subject to this requirement to test and establish drag for their vehicles.

Manufacturers must determine a combination tractor's CdA through testing, which then is to be used as an input into the GEM. Under the rule, manufacturers may choose from test methods to assess the aerodynamics of their vehicle and establish appropriate CdA values. These test methods include coastdown testing, wind tunnel testing and computational fluid dynamics.

To estimate the cost associated with testing combination tractors to establish a CdA, procedures for conducting coastdown tests are specified in 40 CFR 1037.527 of the rule; procedures for conducting wind tunnel testing can be found in (§1037.529 of the rule. Detailed guidance on the role of computational fluid dynamics in establishing a CdA for specific tractor models can be found in 40 CFR 1037.531.

Importantly, tractor manufacturers must conduct coastdown testing on at least one truck. Based on the CdA established from coastdown testing, manufacturers have the option of developing an adjustment factor that can be applied to assess the aerodynamic drag of other trucks. If a manufacturer chooses to develop this adjustment factor, it must also conduct alternate aerodynamic testing on the same truck that was subject to the coastdown test. The rule also provides guidance on using the coastdown and alternate aerodynamic test results (from the same truck) to establish this adjustment factor (40 CFR 1037.525).

As stated, at this time the agencies recognize that manufacturers may not have the facilities or onsite expertise necessary to conduct either coastdown or alternate aerodynamic testing in house. Consequently, the ICR assumes that manufacturers will work with testing contractors that possess the expertise and facilities to meet the rule's testing requirements.

Further, the contract costs (operations and maintenance, or “O&M”) presented in Table 19 assume that tractor manufacturers will choose to derive and apply an adjustment factor to establish the CdA for their trucks. As specified in the rule, this factor can only be used in

conjunction with actual alternate aerodynamic tests conducted on vehicles that are selected to represent specific vehicle families.

Thus, as shown in Table 19, testing burdens for tractor manufacturers are presented as O&M costs, based on the assumption that manufacturers will contract out the testing – coastdown and wind tunnel - needed to establish the CdA for their vehicles, and subsequently to run the GEM.

Tractor manufacturers also will have options for including other parameters in the GEM, if their vehicles are equipped with technologies to reduce idling, lower vehicle weight and limit speed.

Although this data is not reported as a GEM input, at the time of certification, tractor manufacturers also will be required to outline the design of their air conditioning systems used in cabs, and an HFC leakage score. Test procedures for establishing an HFC leakage score are detailed in 40 CFR 1037.115(c).

The ICR assumes that 22 vocational vehicle chassis manufacturers, on average, will identify between two and three vehicle families and that the agencies will receive a total of 60 applications for certificates of conformity from this regulatory category.

The agencies expect to receive an additional 32 applications from manufacturers of combination tractors (on average eight applications from four manufacturers). The four tractor manufacturers also manufacture the vocational vehicles accounted for in the ICR.

However, these manufacturers operate distinctly different truck divisions and based on significant differences in vehicle design, the agencies expect to receive a total of 92 applications for certificates of conformity from the vocational vehicle and tractor categories annually.

(b) Phase 2 Data Items: Tractors

Because the Phase 2 requirements for tractor manufacturers' applications for certification build on the Phase 1 requirements, the same data items listed above in Table 9, Table 10, and Table 11 would also apply in calendar years 2020 and beyond. The proposed HD Phase 2 rule would also require new information that was not required Phase 1. Beginning in 2021 model year, the manufacturers would need to supply additional inputs to GEM, including the following:

- Engine information including manufacturer, model, combustion type, fuel type, family name, and calibration identification
- Engine fuel map,
- Engine full-load torque curve,
- Engine motoring curve,
- Transmission information including manufacturer and model
- Transmission type,
- Transmission gear ratios,
- Drive axle ratio,
- Loaded tire radius for drive tires, and

- Other technology inputs.

The manufacturers would also be required to conduct enhanced aerodynamic testing to obtain a coefficient of drag area that includes wind impacts to better simulate the real world operating conditions. The manufacturers would also be required to conduct additional coastdown tests to obtain an alternative aerodynamic procedure correction factor based on the configuration of the tractor. Finally, manufacturers would be required to conduct limited tractor chassis testing to continue to affirm the representativeness of the GEM simulations.

(c) Phase 2 Data Items: Vocational Vehicles

For the Phase 2 HD GHG program, manufacturers of vocational vehicles would be required to collect the same data items listed above in Table 9, Table 10, and Table 11 in calendar years 2020 and beyond. In addition, new information would be required beginning in MY 2021. When a vocational vehicle manufacturer installs an air conditioning system or directs a second stage manufacturer to install an air conditioning system, the same information as is required for tractors in phase 1 related to HFC leakage from air conditioning systems would become required for Phase 2. Similar to the data items described above for Phase 2 tractors, Phase 2 GEM would require additional inputs to simulate vocational vehicles, including transmission type and gear ratios, drive axle ratio, and tire revs/mile. Each of these data fields would need to be tracked by manufacturers. Also, if a manufacturer elects to substitute a lightweight material such as aluminum for a chassis component as part of its compliance strategy, the use of such components would need to be tracked. The additional engine testing to characterize engine performance in GEM is described above for the engine manufacturers. Vocational vehicle manufacturers would need to obtain these testing results from engine manufacturers and enter the data in GEM.

4. Trailers

Prior to this proposed Phase 2 program, manufacturers of trailers have not been regulated for CO₂ emissions or fuel consumption and the agencies recognize that the proposed trailer program presents these manufacturers with several new testing, reporting, labeling, and recordkeeping requirements. For trailers, the proposed CO₂ and fuel consumption standards are based on reductions that we believe can be achieved by applying currently-available aerodynamic, tire, tire inflation technologies, and light-weight components. The proposed fuel consumption standards are represented as gallons of fuel used to move one ton of freight (payload) 1,000 miles, or gal/1,000 ton-mile. The CO₂ trailer standards are represented as grams of CO₂ per ton-mile.

The proposed Phase 2 regulations lay out several information-related requirements for trailer manufacturers, as summarized in Table 12. For this proposal, the agencies adopted the Small Business Administration's definition of small business, which states that trailer manufacturers with fewer than 500 employees (including parent and subsidiary companies) are considered small businesses. Of the 114 trailer manufacturers, 95 are considered small businesses. Box trailers have the most stringent standards in the Phase 2 proposal, and 14 of these companies manufacturer box trailers (9 large and 5 small businesses). Only 17 of the 109

non-box trailer manufacturers are large businesses. The agencies are proposing a one-year delay in implementation for small businesses to provide additional lead time to prepare for the program. As a result, the cost information in this ICR is presented in separate tables for the large and small trailer manufacturers.

Table 12 Required Information for Trailer Manufacturers

Information Collection Activity	40 CFR 1037 Reference
Review the regulations and any guidance documents	
Develop trailer families	1037.230
Describe each trailer family's basic specs	1037.205(a)
Identify the vehicle family's useful life	1037.205(h)
Provide customer maintenance and warranty info	1037.205(i)
Describe label	1037.205(j)
Identify CO ₂ FELs	1037.205(k)
Provide information describing the procedures you used to determine trailer C _D A values	1037.525
Test trailers and provide C _D A testing results OR	1037.515(c)
Provide data on use pre-approved devices OR	1037.211
Provide carryover data	1037.235(d)
Determine TRRL and provide tire test data	1037.515(b)
Provide information on ATI system	1037.515
Determine weight reduction and provide description	1037.515(d)
Calculate and provide CO ₂ and fuel consumption from compliance equation	1037.515(a)
Use averaging provisions to calculate average CO ₂ and fuel consumption	1037.705
Prepare Final Production	1037.250
Prepare Final Averaging Report	1037.730
Maintain records	1037.250

In the case of trailers, we propose that compliance be demonstrated with an equation that is based on an updated version of GEM, but without the need for trailer manufacturers to run GEM for compliance (as is required for tractors and vocational vehicles). Under the proposed rule, trailer manufacturers would apply performance values for improvements in aerodynamic drag, tire rolling resistance, and as well as values for use of weight-reducing components and automatic tire inflation systems.

To determine a value for the aerodynamic drag improvement to use in the compliance equation, manufacturers would have the option of testing their trailer's aerodynamic performance. Alternatively, we propose that a manufacturer could use "pre-approved" devices, for which the device manufacturer had previously performed appropriate testing. Because of the convenience and economy of using pre-approved devices, we expect that most manufacturers would use this compliance approach and only six of the largest box trailer manufacturers would perform their own testing.

For the large box trailer manufacturers that choose to perform their own aerodynamic testing, the agencies are proposing four optional test procedures could be used to establish the aerodynamic drag improvement from the addition of aerodynamic devices. The procedures are coastdown, constant speed, wind tunnel, and computational fluid dynamics (CFD). Each of these test methods has unique cost and practical advantages and disadvantages, and these could apply somewhat differently from manufacturer to manufacturer. We expect that the remaining box trailer manufacturers (three large and five small manufacturers) would rely on pre-approved devices for their aerodynamic performance data. Of the manufacturers that choose to perform testing, we estimate that they would tend to use wind tunnel and CFD testing most often.

For compliance with the tire rolling resistance standards, we believe that essentially all manufacturers would rely on test data on their trailer tires provided by the tire manufactures. In this analysis, assume the five largest trailer manufacturers would contract one tire test per year. We also account for a small administrative burden for the manufacturer to obtain and report the tire rolling resistance numbers for the tires they provide on their trailers.

Finally, we are proposing that all trailers subject to the Phase 2 program incorporate appropriate automatic tire inflation (ATI) systems. We do not assign an administrative cost for manufacturers to simply report that their families incorporate ATI systems.

In 2017, large trailer manufacturers are expected to have costs associated with reviewing the regulations and guidance documents, performing some preliminary aerodynamic testing and acquiring the new equipment and software needed to begin labeling and certifying their trailers the following year. The labeling and certification costs include some capital startup costs as well as labor. Costs in 2017 are expected to average \$127,000 for the large manufacturers. The program begins in 2018 for large manufacturers, and additional costs are included for data collection, report preparation, and recordkeeping. Some additional testing is also expected for a few of the large manufacturers. Costs in 2018 are expected to average \$128,000 for the large manufacturers, and we expect these costs to remain the same in 2019, since the standards and compliance requirements are stable until model year 2021.

We assume all small business manufacturers will use the one-year delay in implementation offered in the proposed rule, and as a result, they would not begin their program until 2019. Therefore, their only costs in 2017 are related to reviewing the regulations and we estimate those costs to average less than \$9,000 for the small manufacturers. In 2018, we expect small businesses to purchase the required equipment and software for labeling and certification in preparation for the following model year. Those costs are reflected in both labor and capital startup costs. We assume all small box trailer manufacturers will rely on pre-approved devices for their aerodynamic performance data and information from the tire manufacturers for their tire performance data. Therefore we do not expect them to take on any costs for preliminary testing in 2018. The 2018 small business trailer costs are expected to average \$64,000. In 2019 the compliance program would begin for small manufacturers, and additional costs are included for data collection, report preparation, and recordkeeping. We continue to predict that small manufacturers would not perform testing for their aerodynamic and tire performance data. The costs are expected to average \$16,000 for small trailer manufacturers.

D. Respondent Activities

The types of activities a manufacturer would do to certify an engine or vehicle family are as follows:

- Review the regulations and guidance document
- Prepare and submit pre-model year reports or related production data for certification applications
- Develop engine or vehicle “test” or “family” groups
- Test engines and vehicles for compliance with emission and fuel consumption standards
- Gather and analyze test results
- Collect inputs and run GEM, as needed
- Apply for off-cycle credits
- Submit the Application for Certification and Pre-Model Year Information
- Label certified engines or vehicles
- Prepare and submit carryover applications
- Prepare GHG compliance plan and reports, as needed
- Prepare and submit final ABT and production reports
- Store, file and maintain records

V. The Information Collected--Agency Activities, Collection Methodology, and Information Management

A. Agency Activities

As part of the implementation of the certification programs, EPA and NHTSA officials carry out the following activities:

- Review and interpret regulations, provide guidance
- Review certification applications for completeness and accuracy
- Verify that the correct engines and vehicles have been selected and tested
- Answer questions from manufacturers and the public
- Issue appropriate certificates of conformity

- Periodically perform maintenance or enhance the database
- Make data available to the public
- Analyze and manage requests for confidentiality
- Determine if “carry over” of data from a previous model year is appropriate or if new testing will be required
 - Audit data, conduct inspections, and confirmatory testing
 - Review final production/ABT reports, establish final credit balances, and maintain manufacturer’s credit accounts
 - Store, file and maintain data

B. Collection Methodology and Management

EPA and NHTSA currently make extensive use of computers in collecting information from vehicle manufacturers. Essentially all applications for certification and related product descriptions, test results, ABT and final reports, etc. will be submitted electronically through a single point of entry to a database that both EPA and NHTSA can access. Once the data are received, the information is uploaded, monitored and reviewed for completeness by EPA and NHTSA.

The public can access non-confidential portions of the certification applications and test data by contacting CD or through the Certification Information Center at <http://www.epa.gov/otaq/certdata.htm>.

C. Small Entity Flexibility

As discussed in the preamble of the regulation, the respondent class for the years 2017 through 2019 is defined to exclude tractor, vocational, HD pickup truck and van, and engine manufacturers who would fall into the definition of small business entities, except for a once-per-year declaration of small business status. The proposed EPA standards for trailers in the Phase 2 program would become effective in 2018 and are voluntary for NHTSA through model year 2020. The respondent class in 2017 includes both large and small business trailer manufacturers. However, the agencies are proposing a small business flexibility of a one-year delay in implementation for small businesses and it is assumed that the only cost to small businesses in 2017 would be reviewing the regulations. These small businesses would also be obligated to declare their small business status to the agencies.

D. Collection Schedule

Information must be submitted prior to and after the end of each “model year” that a manufacturer intends to build (or import) vehicles. For emissions and fuel consumption purposes, a “model year” is statutorily defined as the annual production period of a manufacturer, which includes January 1 of the calendar year for which the model year is named, may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year.

During the model year, the results of such additional fuel consumption and greenhouse gas tests as the manufacturer conducts are also reported to EPA and NHTSA. After the end of the model year fleet-wide greenhouse gas emissions and equivalent fuel consumption results are reported. If a product is unchanged between model years, much of the information can be “carried over.” The collection frequency and burden are determined to a large extent by the manufacturer’s marketing and production plans. However, as required by law, some submission is required for each model year’s production.

VI. Estimating the Burden and Cost of the Collection

Table 17 through Table 24 represent the costs for each year of the program for years 2017 through 2019. These tables represent burdens and costs for manufacturers of HD engines and the four vehicle categories covered by the HD Phase 2 National Program.

A. Estimating Respondent Burden

Burden estimates were taken from the previous ICRs and adjusted to reflect EPA experience in these and other similar programs. In general, the burden related to engine, tractor, vocational vehicle, and HD pickup truck compliance associated with years 2017 through 2019 are due to requirements of the HD Phase 1 program. This is due to the fact that the proposed HD Phase 2 program does not set new standards for engines, tractors, vocational vehicles and HD pickup trucks until the 2021 model year.

B. Estimating Respondent Costs

1. Estimating labor costs

To estimate labor costs, EPA used the Bureau of Labor Statistics’ National Industry-specific Occupational Wage Estimates (2009) for the Manufacturing Industry (NAICS 31-33), Transportation Equipment Manufacturing Subsector (NAICS 336) and the Professional, Scientific, and Technical Services Sector (NAICS 54). These rates were increased by a factor of 2.1 to account for benefits and overhead. The specific rates used are listed below in Table 13. These are mean hourly rates.

Table 13 Labor Cost Estimates

Occupation	Mean Hourly Rate (BLS)	Mean Hourly Rate (Including benefits and Overhead)
Mechanical Engineers	\$39.16	\$82.24
Engineering Managers	\$50.71	\$106.50
Test Cell Operator	\$23.05	\$48.40
Lawyers	\$65.81	\$138.20
Secretaries, Except Legal, Medical and Executive	\$14.95	\$31.39

2. Estimating Capital, Operations and Maintenance Costs

Operations and Maintenance costs include the non-labor costs associated with conducting tests that are required for MY 2017 through 2019. Costs are for contracted laboratory time, the use of test equipment, vehicle and engine parts, fuel and other supplies.

The agencies expect that manufacturers of trailers, vocational vehicle chassis and combination tractors will contract with testing firms for most of their testing. Under the regulations, these manufacturers need to establish a coefficient of rolling resistance (Crr) for the tires they will specify for vehicles to demonstrate compliance with the new GHG and fuel standards. In addition, tractor and trailer manufacturers need to test vehicles for a coefficient of drag, or a CdA, also needed to demonstrate compliance.

Based on contract costs for running tests to establish Crr (ISO 28580) these test costs amount to a total of \$12,273 for vocational vehicles, \$18,000) for tractors, and \$3,000 for trailers. As listed in Table 18 through Table 24 below, these 3-year values estimate that annually each of the 22 vocational vehicle manufacturers will carry over previous tire testing results, while five manufacturers will test a total of 14 tires, each of the four tractor manufacturers will test 5 tires, and five trailer manufacturers will each test 1 tire.

Based on contract costs for running tests to establish C_DA (either coastdown, wind tunnel or computational fluid dynamics (CFD) models), these aerodynamic test costs amount to a 3-year total of \$354,000 for tractors, and \$3,780,000 for trailers. For tractors, the annual costs include zero coastdown tests, one wind tunnel test, one full computational fluid dynamics (CFD) models, and nine CFD iterations for each of the four tractor manufacturers. For trailers, the annual costs include as many as four coastdown tests, four wind tunnel tests, four full computational fluid dynamics (CFD) models, and four CFD iterations for five of the largest trailer manufacturers. Zero small business trailer manufacturers are expected to perform testing.

3. Capital/Start Up Costs

Startup costs are one-time costs to implement the new requirements in the rule that normally are applicable to the first year of the program, of which becomes effective is in the calendar year 2018. These startup costs fall into three categories. First are costs associated with information management. Second, are start up costs associated with acquiring test equipment. Third, are costs associated with equipment to generate vehicle labels.

For all trailer manufacturers, the rule's electronic reporting requirements will generate first-year start up costs for programming computer systems so that certification and related data can be submitted to EPA/NHTSA in the necessary formats. We also assume they will need to purchase appropriate equipment and software to generate labels. We believe the large business trailer manufacturers will incur these capital costs in 2017 and small business trailer manufacturers will delay these costs until 2018. For the other engine and vehicle manufacturers, there are no new start-up costs estimated for this Phase 2 amendment to the HD ICR in years 2017 through 2019. As described above, we anticipate there would be start up costs for the non-trailer manufacturers to modify their systems to meet the Phase 2 requirements in 2020.

C. Estimating Agency Burden

1. Environmental Protection Agency (EPA)

Existing heavy duty certification and compliance programs are administered by EPA's Compliance Division (CD). CD works closely with the agency's Testing and Advanced Technology Division (TATD) to establish and implement testing programs that enable the agency to ensure compliance with its mobile source emissions standards. Together CD and TATD have identified resources that would be needed to support the National HD Phase 2 program, including full time equivalent (FTE) staff and information system upgrades.

Implementation of the HD Phase 2 engine, tractor, vocational vehicle, and HD pickup truck standards in years 2017 through 2019 would be carried out by existing staff. The implementation of the HD Phase 2 trailer program would require up to two additional FTE.

We project 480 hours per week of staff time at \$80 per hour (loaded to include benefits and overhead) will be expended by the agency to manage compliance related to the engine, tractor, vocational vehicle, and HD pickup truck standards in calendar years 2017, 2018, and 2019. This comes to 22,000 hours or \$1.76 million per year to oversee the requirements of the programs associated with this ICR. These labor estimates are based on Office of Personnel Management labor rates effective January 2011, with a 2.1 multiplier used to account for benefits and overhead.

In addition to FTE costs, the agency will need to maintain a HD engine and vehicle compliance information system. This system will serve as a single point of entry for manufacturers to submit and EPA to collect emissions and fuel economy compliance information. Both EPA and NHTSA will have access to this database system. EPA estimates it will incur ongoing, annualized support costs of \$150,000 in 2017, 2018, and 2019 for this database system that currently covers engine, tractor, vocational vehicle, and HD pickup truck reporting. The HD Phase 2 reporting requirements for engines, tractors, and vocational vehicles would increase in 2020, therefore EPA estimates that updates to the certification, ABT, and production reporting modules would be required in 2019 in preparation for these new requirements, at an estimated cost of \$200,000. EPA would also be required to develop a new certification module for trailer certifications. We estimate that the trailer certification module would cost \$350,000 to develop. In addition, a trailer ABT and production volume reporting module would cost approximately \$100,000 to develop. Therefore, the total EPA cost is \$2,560,000 for the first three implementation years of this proposed rule as found in Table 15.

2. Department of Transportation, National Highway Traffic Safety Administration (NHTSA)

NHTSA has an existing consumer average fuel economy program to increase the fuel economy performance of passenger cars and light trucks. The agency administers this program in conjunction with EPA and has four divisions including the Offices of Rulemaking, Enforcement, Statistical Analysis, and Chief Counsel responsible for carrying out the activities of the program. NHTSA is developing and plans to support its fuel consumption program for heavy-duty trucks as a part of its existing infrastructure for its LD CAFE program.

The agency plans to administer the HD program in the same manner it has historically done for the LD CAFE program. For both programs, manufacturers start the program each model year by submitting preliminary information in advance of the model year demonstrating their ability to comply with standards based on the test results of candidate makes and models. The information is used by EPA to conduct confirmatory testing and NHTSA conducts random audit verifications. Manufacturers continue to test the majority of their fleets throughout the model year and then submit final reports after the model year ends to EPA. EPA verifies manufacturers final demonstration results and submits the findings to NHTSA. NHTSA determines compliance with its standards using a credits balancing system and imposes fines if necessary.

Administering the HD Phase 2 program for NHTSA would require using 10 persons on its existing staff and hiring two new FTEs or contractors. One FTE/contractor will be an engineer and will work on the HD program's enforcement activities and the second will be a program analyst responsible for tracking credits and carrying out other enforcement reporting activities.

NHTSA expects to expend 105.12 hours per week of staff time at cost of \$80 per hour (loaded to include benefits and overhead) to manage its compliance activities (98 percent of the total hours) for fuel consumption standards. In total, NHTSA calculates that it will use 5,466 hours or \$437,280 per year to oversee the requirements of the programs associated with this ICR. These labor estimates are based on Office of Personnel Management labor rates effective January 2010, with a 2.1 multiplier used to account for benefits and overhead.

NHTSA would also incur cost for helping EPA maintain its compliance information database system. The final rule establishes a harmonized approach for the HD program by which manufacturers will submit compliance reports directly through the EPA system as the single point of entry for all GHG emission and fuel consumption information required for this national program. As a result, EPA would need to create access to its database system for NHTSA. NHTSA estimates that annual costs for contributing to maintain the EPA database in housing its fuel consumption information and ensure proper access to the data will cost approximately \$33,000 per year for additional support of the heavy-duty truck program. This soft estimate is based upon NHTSA's experience with a web-based system of comparable size and complexity. However, no costs are assigned on NHTSA's part to enhance the system to meet our business requirements for this rule. EPA has agreed to assume all of these costs. Therefore, the total NHTSA cost is \$470,280 per year for this rule as found in Table 15.

D. Estimating the Respondent Universe and Total Burden and Costs

1. Certification Estimates

There are 12 companies in this sector which manufacture on-highway heavy-duty engines, and 153 companies that manufacture vehicles including trailers that will be required to meet the proposed greenhouse gas emission standards. Notably, although EPA and NHTSA have established distinct standards for the four vehicle categories covered by this rule: 1) heavy duty pickup trucks/vans; 2) vocational vehicles; 3) combination tractors; and 4) trailers -- many manufacturers are producing vehicles in more than one of these categories, and thus will be

required to submit multiple certification applications.

In total, EPA projects that related to the HD National Program, it will receive 376 applications for certification, as follows:

(a) Engine Manufacturers

Engine manufacturers and heavy-duty pickup truck and van manufacturers are currently regulated by EPA and are already familiar with EPA regulations, policies and certification program. Under the proposed regulations, engine manufacturers will not be required to submit new certification applications, but will need to add CO₂, N₂O and CH₄ test information and results to their applications. EPA expects that it will receive approximately 108 such amended applications from engine manufacturers each year.

(b) HD Pickup Trucks and Vans

Although subject to regulation for non-GHG emissions in the past, heavy duty truck and van manufacturers have not been required to submit certification applications for GHG emissions and fuel consumption limits. To comply with the proposed new CO₂, N₂O and CH₄ emission and fuel consumption standards, EPA expects to receive 24 certification applications each year from heavy duty pickup truck and van manufacturers.

(c) Vocational Vehicle Chassis and Combination Tractors

From vocational vehicle chassis manufacturers EPA expects to receive 60 applications and from combination tractor manufacturers the agency estimates it may receive 32 applications each year as we do not expect every manufacturer to produce tractors in each of the nine subcategories.

(d) Trailers

From trailer manufacturers EPA expects to receive 152 applications each year.

Table 14 below summarizes the labor, start up and operations and maintenance costs associated with meeting the proposed GHG and fuel consumption standards. Table 17 through Table 24 detail costs for the four categories of vehicle manufacturers affected by the proposal.

(e) Bottom Line Burden Hours and Cost Tables

2. Respondent Tally

Bottom-line burden and cost estimates for the first three years of the HD National Program are shown in the table below. Table 14 shows industry totals and values for each respondent by category by year. The annual number of responses is 376, the average annual time burden is 62,400 hours, and the average annual cost burden is \$8 million (including Labor, Capital and O&M Costs).

Table 14 Total Estimated Respondent Burden and Cost Summary

Manufacturer Program	Number of Respondents	Number of Responses	Total Hours Per Year	Labor Costs	Capital Costs	Annual O&M Costs	Total Annual Capital and O&M Costs	Total Labor, Capital, and O&M Costs
2017								
Engine Testing & Certification	12	108	2,592	\$207,491	\$0	\$0	\$0	\$207,491
HD Truck/Van Testing & Certification	3	24	3,828	\$324,918	\$0	\$0	\$0	\$324,918
Vocational Vehicle Testing & Certification	22	60	10,860	\$886,231	\$0	\$1,500	\$1,500	\$890,322
Combination Tractor Certification	4	32	16,420	\$1,274,595	\$0	\$124,000	\$124,000	\$1,336,466
Trailer Certification	114	152	17,552	\$1,666,395	\$950,000	\$612,000	\$1,562,000	\$3,228,395
2018								
Engine Testing & Certification	12	108	2,592	\$207,491	\$0	\$0	\$0	\$207,491
HD Truck/Van Testing & Certification	3	24	4,824	\$324,918	\$0	\$0	\$0	\$324,918
Vocational Vehicle Testing & Certification	22	60	10,860	\$886,231	\$0	\$1,500	\$1,500	\$890,322
Combination Tractor Certification	4	32	17,120	\$1,274,595	\$0	\$124,000	\$124,000	\$1,336,466
Trailer Certification	114	152	31,242	\$2,130,433	\$4,750,000	\$1,585,500	\$ 6,335,500	\$8,465,933
2019								
Engine Testing & Certification	12	108	2,592	\$207,491	\$0	\$0	\$0	\$207,491
HD Truck/Van Testing & Certification	3	24	4,824	\$324,918	\$0	\$0	\$0	\$324,918
Vocational Vehicle Testing & Certification	22	60	10,860	\$886,231	\$0	\$1,500	\$1,500	\$890,322
Combination Tractor Certification	4	32	17,120	\$1,274,595	\$0	\$124,000	\$124,000	\$1,336,466
Trailer Certification	114	152	37,290	\$2,341,694	\$0	\$1,585,500	\$1,585,500	\$3,927,194
2017-2019 TOTALS								
2017 Total	155	376	51,252	\$4,359,630	\$950,000	\$737,500	\$1,687,500	\$5,987,592

Manufacturer Program	Number of Respondents	Number of Responses	Total Hours Per Year	Labor Costs	Capital Costs	Annual O&M Costs	Total Annual Capital and O&M Costs	Total Labor, Capital, and O&M Costs
2018 Total	155	376	66,638	\$4,823,688	\$4,750,000	\$1,711,000	\$6,461,000	\$11,225,130
2019 Total	155	376	72,686	\$5,034,930	\$0	\$1,711,000	\$1,711,000	\$6,686,392
Three Year Total	155	1,128	190,576	\$14,218,200	\$5,700,000	\$4,159,500	\$9,859,500	\$23,899,100
Annualized Burden (3-yr average)	155	376	63,525	\$4,739,400	\$1,900,000	\$1,386,500	\$3,286,500	\$7,966,400

3. The Tally for the Agencies

Table 15 Total Estimated Agency Burden and Cost Summary

Program	Number of Applications	Number of Activities	Total Hours Per Year	Total Labor Cost Per Year	Total Capital Costs	Total Annual O&M Costs	Total Costs
EPA Emissions Certification	376	10	22,000	\$1,760,000	\$650,000	\$150,000	\$2,560,000
DOT Fuel Consumption	376	10	5,466	\$437,280	0	\$33,000	\$470,280
EPA & DOT TOTALS	376	20	27,466	\$2,197,280	\$650,000	\$183,000	\$3,030,280

4. Reasons for change in burden

This is new information collection and it represents a new burden. There has been no change in the record keeping or reporting requirements for engine, HD pickup truck and van, vocational chassis and tractor manufacturers since the previous HD Phase 1 ICR renewal period; however, there are new burdens associated with trailers.

5. Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is estimated to average approximately 400 hours per respondent, or 200 hours per application. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15 (OMB Control No. 2060-0678).

To comment on the agencies' need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID Number EPA-HQ-OAR-2014-0827, which is available for online viewing at www.regulations.gov, or in person viewing at the Air and Radiation Docket and Information Center in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Avenue, NW, Washington, D.C. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Air and Radiation Docket and Information Center is (202) 566-1742. An electronic version of the public docket is available at www.regulations.gov. This site can be used to submit or view public comments, access the index listing of the contents of the public docket, and to access those documents in the public docket that are available electronically. When in the system, select "search," then key in the Docket ID Number identified above. Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, D.C. 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number EPA-HQ-OAR-2014-0827 and OMB Control Number 2060-0678 in any correspondence.

Table 16 Annual Respondent Burden and Cost for Heavy-Duty Pickup Trucks and Vans

Information Collection Activity	Hours and cost per application							Total hours and cost			
	Engineer hrs	Manager hrs	Legal hrs	Test Cell Operator hrs	Clerical hrs	Respon. Hr / Application	Labor Cost/yr	Applications/ respondent	Number of Respondents	Total hr/yr	Total Cost/yr
Rate \$/hr	\$ 82.24	\$ 106.50	\$ 138.20	\$ 48.40	\$ 31.39						
Review of regs and guidance document	2	1	0	1	0	4	\$ 319	8.0	3	96	\$ 7,665
Test/Gather emission data on test vehicles (dyno)	12	4	0	8	0	24	\$ 1,800	4.0	3	288	\$ 21,601
Test Cost (Coast Down)	10	2	0	2	0	14	\$ 1,132	4.0	3	168	\$ 13,586
Analyze Data to Determine Compliance	16	4	2	2	0	24	\$ 2,115	8.0	3	576	\$ 50,761
Prepare and submit "carryover" application	2	1	1	2	2	8	\$ 569	4.0	3	96	\$ 6,825
Prepare & submit certification applications	8	12	3	4	10	37	\$ 2,858	4.0	3	444	\$ 34,296
Prepare & Review GHG Compliance Plan	9	8	1	0	1	19	\$ 1,762	8.0	3	456	\$ 42,282
End-of-year Production Report	20	10	8	0	8	46	\$ 4,067	8.0	3	1,104	\$ 97,596
ABT, Emissions Credit Report	10	5	4	0	4	23	\$ 2,033	8.0	3	552	\$ 48,798
Store, file and maintain records	0	0	0	0	2	2	\$ 63	8.0	3	48	\$ 1,507
Total per respondent	89	47	19	19	27	201	\$ 16,718	8	3	160	\$ 108,306
Total for the industry	2,136	1,128	456	456	648	4,824	\$ 324,918	24	24	3,828	\$ 324,918

* In these years of program implementation, manufacturers will only be required to run coastdown and dyno tests on newly introduced vehicles

Table 17 Annual Respondent Burden and Cost for Heavy-Duty Engine Manufacturers

Information Collection Activity	Hours and cost per application										Total hours and cost		
	Engineer hrs	Manager hrs	Legal hrs	Test Cell Operator hrs	Clerical hrs	Respon. Hr / Application	Labor Cost/yr	Capital Startup Cost	O & M Cost	Applications / respondent	Number of Respondents	Total hr/yr	Total Cost/yr
Rate \$/hr	\$ 82.24	\$106.50	\$ 138.20	\$ 48.40	\$ 31.39								
Review of regs and guidance document	2	1	0	0	0	3	\$ 271	0	0	9	12	324	29,266
Testing/Gathering emission data on test engines	1	0	0	2	0	3	\$ 179	0	0	9	12	324	19,336
Analyze data to determine compliance	1	1	0	0	0	2	\$ 189	0	0	9	12	216	20,384
Prepare and submit certification application	1	1	1	1	1	5	\$ 407	0	0	9	12	540	43,927
Preparing and submitting "carry over" applications	1	1	0	0	0	2	\$ 189	0	0	9	12	216	20,384
Prepare & Review GHG Compliance Plan	1	1	0	0	0	2	\$ 189	0	0	9	12	216	20,384
Final Year Production Update	4	1	0	0	0	5	\$ 435	0	0	9	12	540	47,030
Store, file and maintain records	0	0	0	0	2	2	\$ 63	0	0	9	12	216	6,780
Total per respondent	11	6	1	3	3	24	\$ 1,921	\$ -	\$ -	9	12	24	\$17,291
Total for the industry	1,188	648	108	324	324	2,592	\$ 207,491	\$ -	\$ -	108	108	2,592	\$207,491

Table 18 Annual Respondent Burden and Costs for Vocational Vehicles

Information Collection Activity	Hours and cost per application										Total hours and cost		
	Engineer hrs	Manager hrs	Legal hrs	Test Cell Operator hrs	Clerical hrs	Respon. hr/Application	Labor Cost/yr	Capital Startup Cost	O & M Cost *	Applications/ respondent	Number of Respondents	Total hr/yr	Total Cost/yr
Rate \$/hr	\$ 82.24	\$ 106.50	\$138.20	\$ 48.40	\$ 31.39								
Review of regs and guidance document	6	3	1	0	0	10	\$ 951	0	0	2.7	22	600	57,068
Tire Testing - ISO28580	2	1	0	0	0	3	\$ 271	0	300	2.7	5	180	20,350
Collect Data & Run GEM	15	3	0	0	0	18	\$ 1,553	0	0	2.7	22	1,080	93,186
Analyze Data to Determine Compliance	10	4	1	0	0	15	\$ 1,387	0	0	2.7	22	900	83,196
Preparing and submitting "carry over" applications	16	2	2	0	4	24	\$ 1,931	0	0	2.7	22	1,440	115,848
Labeling Requirements	8	3	2	0	4	17	\$ 1,379	0	0	2.7	22	1,020	82,763
End-of-year Production Report	30	4	1	0	8	43	\$ 3,283	0	0	2.7	22	2,580	196,951
ABT, Emissions Credit Report	20	5	2	0	6	33	\$ 2,642	0	0	2.7	22	1,980	158,522
Store, file, maintain records	10	4	0	0	4	18	\$ 1,374	0	0	2.7	22	1,080	82,438
Total per respondent	117	29	9	0	26	181	\$ 14,771	\$ -	\$ 300	2.7	22	494	\$40,469
Total for the industry	7,020	1,740	540	0	1,560	10,860	\$ 886,231	\$ -	\$ 1,500	60	60	10,860	\$890,322

* The O&M cost reflects that each manufacturer will be able to carry-over tire test results and estimates that only 5 mfrs will test 1 new tire per certification at a cost of \$300 per tire, for a total of 14 new tire test

**Based on 22 manufacturers, each submitting an average 2.7 applications for certificates of conformity to cover production of their Class 3, 4, 5, 6, 7 and 8 vocational trucks

Table 19 Annual Respondent Burden and Costs for Combination Tractors

Information Collection Activity	Hours and cost per application									Total hours and cost			
	Engineer hrs	Manager hrs	Legal hrs	Test Cell Operator hrs	Clerical hrs	Respon. hr/Application	Labor Cost/yr	Capital Startup Cost	O & M Cost *	Applications/respondent	Number of Respondents	Total hr/yr	Total Cost/yr
Rate \$/hr	\$ 82.24	\$ 106.50	\$138.20	\$ 48.40	\$ 31.39								
Review of regs and guidance document	6	4	2	0	0	12	\$ 1,196	0	0	8	4	384	\$ 38,267
Test tractors for Cd (coefficient of drag)													
- Coast Down Testing	0	0	0	0	0	0	\$ -	0	15,000	0	4	0	\$ -
- Wind Tunnel Testing	8	2	0	0	0	10	\$ 871	0	20,000	1	4	40	\$ 83,484
- Cfd (initial drawing)	8	4	0	0	0	12	\$ 1,084	0	5,000	1	4	48	\$ 24,336
- Cfd (layers)	2	1	0	0	0	3	\$ 271	0	500	9	4	108	\$ 27,755
Tire Testing													
- ISO 28580	6	2	0	0	0	8	\$ 706	0	300	5	4	160	\$ 20,129
Collect Data & Run GEM	51	10	0	0	8	69	\$ 5,510	0	0	8	4	2,208	\$ 176,332
Labeling Requirements	10	4	3	0	80	97	\$ 4,174	0	0	8	4	3,104	\$ 133,574
Prepare & submit certification application, including carryover apps	40	20	10	0		70	\$ 6,802	0	0	8	4	2,240	\$ 217,651
End-of-year Production Report	80	5	2	0	10	97	\$ 7,702	0	0	8	4	3,104	\$ 246,464
ABT, Emissions Credit Report	60	15	4	0	6	85	\$ 7,273	0	0	8	4	2,720	\$ 232,737
Store, file, maintain records	20	10	2	0	40	72	\$ 4,242	0	0	8	4	2,304	\$ 135,738
Total per respondent	291	77	23	0	144	535	\$ 39,831	\$ -	\$ 40,800	8	4	4,105	\$ 334,117
Total for the industry	9,312	2,464	736	0	4,608	17,120	\$1,274,595	\$ -	\$124,000	32	32	16,420	\$1,336,466

* Operations & Maintenance Costs include contract costs for running coast down and wind tunnel tests. The O&M cost reflects that each manufacturer will be able to carry-over tire test results and estimates that each will test 1 new tire for 5 applications at a cost of \$300 per tire, for a total of 20 new tire tests each year for the industry.

Table 20 Annual Respondent Burden and Costs for Large Business Trailer Manufacturers – 2017

Information Collection Activity	Hours and cost per application											Total hours and cost		
	Engineer hrs @ Rate	Manager hrs @ Rate	Legal hrs @ Rate	Test Cell Operator hrs @ Rate	Clerical hrs @ Rate	Respon. hr/Application	Labor Cost/yr	Capital Startup Cost (1)	O & M Cost (2)	Applications/ respondent	Number of Respon.	Total hr/yr	Total Cost/yr	
Review of regs and guidance document	20	6	40	0	0	66	\$ 7,812	0	0	2.5	19	3,135	\$ 371,061	
Test trailers for Cd (coefficient of drag)														
- Coastdown Testing	12	3	0	0	0	15	\$ 1,306		\$ 30,000	0.0	0	0	\$ -	
- Wind Tunnel Testing	8	2	0	0	0	10	\$ 871		\$ 40,000	2.0	6	120	\$ 490,451	
- Cfd (initial drawing)	8	4	0	0	0	12	\$ 1,084		\$ 10,000	2.0	6	144	\$ 133,007	
- Cfd (layers)	2	1	0	0	0	3	\$ 271		\$ 1,000	2.0	6	36	\$ 15,252	
Tire Testing														
- ISO 28580	6	2	0	0	0	8	\$ 706		\$ 300	0.0	0	0	\$ -	
Collect Data & Calculate Compliance Values	20	4	0	0	8	32	\$ 2,322		\$ -	0.0	0	0	\$ -	
Labeling Requirements	32	6	6	0	80	124	\$ 6,611	\$ 25,000	\$ -	2.5	19	5,890	\$ 789,026	
Prepare & submit certification application, including carryover apps	16	2	10	0	0	28	\$ 2,911	\$ 25,000	\$ -	2.5	19	1,330	\$ 613,265	
End-of-year Production Report	10	4	2	0	10	26	\$ 1,839		\$ -	0.0	0	0	\$ -	
ABT, Emissions Credit Report	5	4	4	0	6	19	\$ 1,578		\$ -	0.0	0	0	\$ -	
Store, file, maintain records	2	1	2	0	40	45	\$ 1,803		\$ -	0.0	0	0	\$ -	
Total per respondent	141	39	64	0	144	388	\$ 44,740	\$ 50,000	\$ 32,211	2.5	1	561	\$ 126,951	
Total for the industry	2,679	741	1,216	0	2,736	7,372	\$ 850,062	\$ 950,000	\$ 612,000	47.5	19	10,655	\$ 2,412,062	

(1) Capital start up costs include upgrades in information and management system to record and report test data to EPA.
(2) Operations & Maintenance Costs include contract costs for running 2 coastdown, wind tunnel, or CFD test (baseline and tested configuration) and contract costs for 1 new tire test for each of the 5 largest manufacturers, at a cost of \$300 per tire, for a total of 5 new tire tests each year for the industry.

Table 21: Annual Respondent Burden and Costs for Small Business Trailer Manufacturers - 2017

Information Collection Activity	Hours and cost per application											Total hours and cost		
	Engineer hrs @ Rate	Manager hrs @ Rate	Legal hrs @ Rate	Test Cell Operator hrs @ Rate	Clerical hrs @ Rate	Respon. hr/Application	Labor Cost/yr	Capital Startup Cost (1)	O & M Cost (2)	Applications/ respondent	Number of Respon.	Total hr/yr	Total Cost/yr	
Review of regs and guidance document	20	6	40	0	0	66	\$ 7,812	0	0	1.1	95	6,897	\$ 816,333	
Test trailers for Cd (coefficient of drag)														
- Coastdown Testing	12	3	0	0	0	15	\$ 1,306		\$ 30,000	0.0	0	0	\$ -	
- Wind Tunnel Testing	8	2	0	0	0	10	\$ 871		\$ 40,000	0.0	0	0	\$ -	
- Cfd (initial drawing)	8	4	0	0	0	12	\$ 1,084		\$ 10,000	0.0	0	0	\$ -	
- Cfd (layers)	2	1	0	0	0	3	\$ 271		\$ 1,000	0.0	0	0	\$ -	
Tire Testing														
- ISO 28580	6	2	0	0	0	8	\$ 706		\$ 300	0.0	0	0	\$ -	
Collect Data & Calculate Compliance Values	20	4	0	0	8	32	\$ 2,322		\$ -	0.0	0	0	\$ -	
Labeling Requirements	8	3	3	0	80	94	\$ 3,903		\$ -	0.0	0	0	\$ -	
Prepare & submit certification application, including carryover apps	16	2	10	0	0	28	\$ 2,911		\$ -	0.0	0	0	\$ -	
End-of-year Production Report	10	4	2	0	10	26	\$ 1,839		\$ -	0.0	0	0	\$ -	
ABT, Emissions Credit Report	5	4	4	0	6	19	\$ 1,578		\$ -	0.0	0	0	\$ -	
Store, file, maintain records	2	1	2	0	40	45	\$ 1,803		\$ -	0.0	0	0	\$ -	
Total per respondent	117	36	61	0	144	358	\$ 8,593	\$ -	\$ -	1.1	1	73	\$ 8,593	
Total for the industry	11,115	3,420	5,795	0	13,680	34,010	\$ 816,333	\$ -	\$ -	104.5	95	6,897	\$ 816,333	

(1) Capital start up costs include upgrades in information and management system to record and report test data to EPA.
(2) Operations & Maintenance Costs include contract costs for running 2 coastdown, wind tunnel, or CFD test (baseline and tested configuration) and contract costs for 1 new tire test for each of the 5 largest manufacturers, at a cost of \$300 per tire, for a total of 5 new tire tests each year for the industry.

Table 22 Annual Respondent Burden and Costs for Large Business Trailer Manufacturers – 2018 & 2019

Information Collection Activity	Hours and cost per application										Total hours and cost		
	Engineer hrs @ Rate Rate \$/hr	Manager hrs @ Rate	Legal hrs @ Rate	Test Cell Operator hrs @ Rate	Clerical hrs @ Rate	Respon. hr/Application	Labor Cost/yr	Capital Startup Cost (1)	O & M Cost (2)	Applications/ respondent	Number of Respon.	Total hr/yr	Total Cost/yr
Review of regs and guidance document	20	6	10	0	0	36	\$ 3,666	0	0	2.5	19	1,710	\$ 174,126
Test trailers for Cd (coefficient of drag)													
- Coastdown Testing	12	3	0	0	0	15	\$ 1,306		\$ 30,000	4.0	3	180	\$ 375,677
- Wind Tunnel Testing	8	2	0	0	0	10	\$ 871		\$ 40,000	4.0	6	240	\$ 980,902
- Cfd (initial drawing)	8	4	0	0	0	12	\$ 1,084		\$ 10,000	4.0	6	288	\$ 266,014
- Cfd (layers)	2	1	0	0	0	3	\$ 271		\$ 1,000	4.0	6	72	\$ 30,504
Tire Testing													
- ISO 28580	6	2	0	0	0	8	\$ 706		\$ 300	1.0	5	40	\$ 5,032
Collect Data & Calculate Compliance Values	20	4	0	0	8	32	\$ 2,322		\$ -	4.0	9	1,152	\$ 83,589
Labeling Requirements	8	3	3	0	80	94	\$ 3,903		\$ -	2.5	19	4,465	\$ 185,403
Prepare & submit certification application, including carryover apps	16	2	10	0	0	28	\$ 2,911		\$ -	2.5	19	1,330	\$ 138,265
End-of-year Production Report	10	4	2	0	10	26	\$ 1,839		\$ -	2.5	19	1,235	\$ 87,338
ABT, Emissions Credit Report	5	4	4	0	6	19	\$ 1,578		\$ -	2.0	5	190	\$ 15,783
Store, file, maintain records	2	1	2	0	40	45	\$ 1,803		\$ -	2.5	19	2,138	\$ 85,642
Total per respondent	117	36	31	0	144	328	\$ 44,357	\$ -	\$ 83,447	2.5	1	686	\$ 127,804
Total for the industry	2,223	684	589	0	2,736	6,232	\$ 842,774	\$ -	\$ 1,585,500	47.5	19	13,040	\$ 2,428,274

(1) Capital start up costs include upgrades in information and management system to record and report test data to EPA.

(2) Operations & Maintenance Costs include contract costs for running 2 coastdown, wind tunnel, or CFD test (baseline and tested configuration) and contract costs for 1 new tire test for each of the 5 largest manufacturers, at a cost of \$300 per tire, for a total of 5 new tire tests each year for the industry.

Table 23 Annual Respondent Burden and Costs for Small Business Trailer Manufacturers – 2018

Information Collection Activity	Hours and cost per application										Total hours and cost		
	Engineer hrs @ Rate Rate \$/hr	Manager hrs @ Rate \$ 106.50	Legal hrs @ Rate \$ 138.20	Test Cell Operator hrs @ Rate \$ 48.40	Clerical hrs @ Rate \$ 31.39	Respon. hr/Application	Labor Cost/yr	Capital Startup Cost (1)	O & M Cost (2)	Applications/ respondent	Number of Respon.	Total hr/yr	Total Cost/yr
Review of regs and guidance document	20	6	10	0	0	36	\$ 3,666	0	0	1.1	95	3,762	\$ 383,076
Test trailers for Cd (coefficient of drag)													
- Coastdown Testing	12	3	0	0	0	15	\$ 1,306		\$ 30,000	0.0	0	0	\$ -
- Wind Tunnel Testing	8	2	0	0	0	10	\$ 871		\$ 40,000	0.0	0	0	\$ -
- Cfd (initial drawing)	8	4	0	0	0	12	\$ 1,084		\$ 10,000	0.0	0	0	\$ -
- Cfd (layers)	2	1	0	0	0	3	\$ 271		\$ 1,000	0.0	0	0	\$ -
Tire Testing													
- ISO 28580	6	2	0	0	0	8	\$ 706		\$ 300	0.0	0	0	\$ -
Collect Data & Calculate Compliance Values	20	4	0	0	8	32	\$ 2,322		\$ -	0.0	0	0	\$ -
Labeling Requirements	32	6	6	0	80	124	\$ 6,611	\$ 25,000	\$ -	1.0	95	11,780	\$ 3,003,053
Prepare & submit certification application, including carryover apps	16	2	10	0	0	28	\$ 2,911	\$ 25,000	\$ -	1.0	95	2,660	\$ 2,651,530
End-of-year Production Report	10	4	2	0	10	26	\$ 1,839		\$ -	0.0	0	0	\$ -
ABT, Emissions Credit Report	5	4	4	0	6	19	\$ 1,578		\$ -	0.0	0	0	\$ -
Store, file, maintain records	2	1	2	0	40	45	\$ 1,803		\$ -	0.0	0	0	\$ -
Total per respondent	141	39	34	0	144	358	\$ 13,554	\$ 50,000	\$ -	1.1	1	192	\$ 63,554
Total for the industry	13,395	3,705	3,230	0	13,680	34,010	\$1,287,659	\$ 4,750,000	\$ -	104.5	95	18,202	\$ 6,037,659

(1) Capital start up costs include upgrades in information and management system to record and report test data to EPA.
(2) Operations & Maintenance Costs include contract costs for running 2 coastdown, wind tunnel, or CFD test (baseline and tested configuration) and contract costs for 1 new tire test for each of the 5 largest manufacturers, at a cost of \$300 per tire, for a total of 5 new tire tests each year for the industry.

Table 24: Annual Respondent Burden and Costs for Small Business Trailer Manufacturers - 2019

Information Collection Activity	Hours and cost per application										Total hours and cost		
	Engineer hrs @ Rate Rate \$/hr	Manager hrs @ Rate \$ 106.50	Legal hrs @ Rate \$ 138.20	Test Cell Operator hrs @ Rate \$ 48.40	Clerical hrs @ Rate \$ 31.39	Respon. hr/Application	Labor Cost/yr	Capital Startup Cost (1)	O & M Cost (2)	Applications/ respondent	Number of Respon.	Total hr/yr	Total Cost/yr
Review of regs and guidance document	20	6	10	0	0	36	\$ 3,666	0	0	1.1	95	3,762	\$ 383,076
Test trailers for Cd (coefficient of drag)													
- Coastdown Testing	12	3	0	0	0	15	\$ 1,306		\$ 30,000	0.0	0	0	\$ -
- Wind Tunnel Testing	8	2	0	0	0	10	\$ 871		\$ 40,000	0.0	0	0	\$ -
- Cfd (initial drawing)	8	4	0	0	0	12	\$ 1,084		\$ 10,000	0.0	0	0	\$ -
- Cfd (layers)	2	1	0	0	0	3	\$ 271		\$ 1,000	0.0	0	0	\$ -
Tire Testing													
- ISO 28580	6	2	0	0	0	8	\$ 706		\$ 300	0.0	0	0	\$ -
Collect Data & Calculate Compliance Values	20	4	0	0	8	32	\$ 2,322		\$ -	2.0	5	320	\$ 23,219
Labeling Requirements	8	3	3	0	80	94	\$ 3,903		\$ -	1.1	95	9,823	\$ 407,886
Prepare & submit certification application, including carryover apps	16	2	10	0	0	28	\$ 2,911		\$ -	1.1	95	2,926	\$ 304,183
End-of-year Production Report	10	4	2	0	10	26	\$ 1,839		\$ -	1.1	95	2,717	\$ 192,144
ABT, Emissions Credit Report	5	4	4	0	6	19	\$ 1,578		\$ -	0.0	0	0	\$ -
Store, file, maintain records	2	1	2	0	40	45	\$ 1,803		\$ -	1.1	95	4,703	\$ 188,411
Total per respondent	117	36	31	0	144	328	\$ 15,778	\$ -	\$ -	1.1	1	255	\$ 15,778
Total for the industry	11,115	3,420	2,945	0	13,680	31,160	\$1,498,920	\$ -	\$ -	104.5	95	24,251	\$ 1,498,920

(1) Capital start up costs include upgrades in information and management system to record and report test data to EPA.
(2) Operations & Maintenance Costs include contract costs for running 2 coastdown, wind tunnel, or CFD test (baseline and tested configuration) and contract costs for 1 new tire test for each of the 5 largest manufacturers, at a cost of \$300 per tire, for a total of 5 new tire tests each year for the industry.