

Supporting Statement

for

Information Collection Request

Emissions Certification, Compliance and In-Use Testing
Requirements for On-highway Heavy Duty Vehicles and Engines Equipped with On-board
Diagnostics (Amendment)

42 USC 7521 § 206
42 USC 7521 § 213(d)
40 CFR Part 86
40 CFR Part 89
40 CFR Part 94

November 2006

Certification and Compliance Division
Office of Transportation and Air Quality
Office of Air and Radiation
U.S. Environmental Protection Agency

1. Identification of the Information Collection

1 (a) Title and Number of the Information Collection

Emissions Certification, Compliance and In-Use Testing Requirements for On-highway Heavy Duty Vehicles and Engines Equipped with On-board Diagnostics (Amendment). EPA ICR Number 1684.09, OMB Control Number 2060-0287.

1(b) Short Characterization

This supporting statement is a revision to EPA ICR 1684.08 which estimates the burden associated with emission certification, compliance, and in-use testing requirements affecting manufacturers of on-highway heavy-duty engines. EPA is proposing new requirements for on-highway heavy duty engine manufacturers to install on-board diagnostic (OBD) systems on these engines to monitor the performance of the emission control systems on these engines. These proposed requirements will necessitate some additional reporting and recordkeeping requirements.

Under Title II of the Clean Air Act (42 U.S.C. 7521 et seq.)(CAA), EPA is charged with issuing certificates of conformity for those engines that comply with applicable emission standards. Such a certificate must be issued before engines may be legally introduced into commerce. To apply for a certificate of conformity, manufacturers are required to submit descriptions of their planned production engines, including detailed descriptions of emission control systems and test data. This information is organized by “engine family” groups expected to have similar emission characteristics.

This information is collected by the Certification and Compliance Division (CCD), Office of Transportation and Air Quality (OTAQ), Office of Air and Radiation (OAR), U.S. Environmental Protection Agency (EPA). Besides CCD, this information could be used by the Office of Enforcement and Compliance (OECA) and the Department of Justice for enforcement purposes. Confidential Business Information (CBI) is also disclosed in a public database and over the Internet. It is used by trade associations, environmental groups, and the public. The information is usually submitted in an electronic format, and it is stored in CCD’s certification database.

It has been estimated that a total of 12 manufacturers will respond to this collection with an approximate annual cost of \$16,018 per respondent.

2. Need for and Use of the Collection

2(a) Need/Authority for the Collection

Vehicle and engine manufacturers may not legally introduce their product into US commerce unless EPA has certified that their vehicles and engines comply with applicable emission standards. To ensure compliance with these statutes, EPA reviews product information and manufacturers' test results.

EPA's emission certification programs are statutorily mandated; the agency does not have discretion to cease these functions. 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.”

Also, under the authority of the CAA §217, on-highway engine manufacturers are required to pay a fee when applying for a certificate of conformity. EPA's statutory authority for OBD requirements is found in the Clean Air Act, 42 U.S.C. 7401 et seq., in particular, sections 202 and 206 of the Act, 42 U.S.C. 7521, 7525. The OBD rule is being promulgated under the administrative and procedural provisions of Clean Air Act section 307(d), 42 U.S.C. 7607(d).

2(b) Practical Utility/Users of the Data

EPA uses certification information to verify that the proper engine prototypes have been selected and that the necessary testing has been performed to assure that each engine complies with emission standards. In addition, EPA will require additional information at the time of certification to ensure that that on-board diagnostic (OBD) requirements are being met.

During the certification phase, manufacturers submit emissions data obtained through testing an engine prototype. In order to verify that a manufacturers' final products do comply with on-board diagnostic requirements, manufacturers will be required to do some pre-production testing test and provide that information to EPA as part of its application for certification. In addition, EPA is proposing to require that manufacturers conduct testing on vehicles that are operating on the road to ensure that their OBD systems are functioning in-use.

EPA uses the information requested to support various enforcement actions as mandated by the CAA. This information collection enables EPA to ensure that engine manufacturers are

complying with applicable emission regulations and on-board diagnostic requirements and take corrective actions as needed.

The information will be received and used by CISD/OTAQ/OAR. Non-confidential portions of the information submitted to CISCD is available to and used by importers, environmental groups, members of the public and local, state and federal government organizations.

3. Nonduplication, Consultations and Other Collection Criteria

3(a) Nonduplication

The information requested under this ICR is required by statute. Because of its specialized (and sometimes confidential) nature, and the fact that it must be submitted to EPA prior to the start of production, the information collected is not available from any other source. Furthermore, some of the information requested, such as information manufacturer specific information on OBD systems design, is confidential in nature; therefore, EPA can only obtain it if the manufacturers submit it.

3(b) Public Notice Required Prior to ICR Submission to OMB

An announcement of the public comment period for this ICR will be published in the Federal Register as part of the notice of proposed rulemaking (NPRM) for the entire rulemaking. EPA will take comment at that time and incorporate comments as appropriate for this ICR and submit the final ICR to OMB accordingly.

3(c) Consultations

EPA consulted less than ten past respondents regarding this information collection burden.

3(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 design is "carried over" to a subsequent model year, the amount of new information required is substantially reduced.

3(e) General Guidelines

According to 40 CFR 86.098-7 certification, end-of-the-year report related records must be maintained for eight years. However, "records may be retained as hard copy or reduced to microfilm, ADP film, etc., depending on the manufacturer's record retention procedure, provided that in every case all the information contained in the hard copy is retained." These recordkeeping requirements stem, in large part, from the statutory requirement to warrant some items for long periods of time. In addition, the manufacturers must comply with requirements to recall vehicles and engines failing to meet emission standards during their useful lives.

Manufacturers are required to submit confidential business information such as sales projections and certain sensitive technical descriptions (Please 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.

The information is requested in less than thirty days so that EPA can verify the accuracy and validity of the emission data and expeditiously reach a conclusive audit decision. An expeditious audit decision allows the manufacturer to quickly release the tested vehicles or engines for introduction into commerce.

No other general guideline is exceeded by this information collection.

3(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 3(e).

3(g) Sensitive Questions

No sensitive questions are asked in this information collection.

4. Respondents and Information Requested

4(a) Respondents/SIC Codes

Respondents are manufacturers of non-road engines within the following North American Industry Classification System (NAICS) codes:

333618 Other Engine Equipment Manufacturing

4(b) Information Requested

The OBD system certification requirements would require manufacturers to submit OBD system documentation that represents each engine family. The certification documentation would be required to contain all of the information needed to determine if the OBD system meets the proposed OBD requirements. If any of the information in the certification package is the same for all of a manufacturer's engine families (e.g., the OBD system general description), the manufacturer would only be required to submit one set of documents each model year for such items that would cover all of its engine families.

A build specification will be provided by vehicle manufacturers detailing mechanical and electrical specifications that must be adhered to for proper installation and use of the engine (and to maintain compliance with emissions standards). Installation specifications would be expected to include instructions regarding the location, color, and display icon of the MIL (as well as electrical connections to ensure proper illumination), location and type of diagnostic connector, and electronic VIN access. During the certification process, in addition to submitting the details of all of the diagnostic strategies and other information required, engine manufacturers would be required to submit a copy of the OBD-relevant installation specifications provided to vehicle manufacturers and a description of the method used by the engine manufacturer to ensure vehicle manufacturers adhere to the provided installation specifications (e.g., required audit procedures or signed agreements to adhere to the requirements).

In summary, engine manufacturers would be responsible for submitting a certification package that includes:

- A detailed description of all OBD monitors, including monitors on signals or messages coming from other modules upon which the engine control unit relies to perform other OBD monitors; and
- A copy of the OBD-relevant installation specifications provided to vehicle manufacturers/chassis builders and the method used to reasonably ensure compliance with those specifications.

EPA is also requiring that manufacturers submit an OBD system description and summary table. The OBD system description would include a complete written description for each monitoring strategy outlining every step in the decision-making process of the monitor, including a general explanation of the monitoring conditions and malfunction criteria. This description should include graphs, diagrams, and/or other data that would help our compliance staff understand how each monitor works and interacts. The OBD summary table would include specific parameter values. This table would provide a summary of the OBD system specifications, including: the component/system, the DTC identifying each related malfunction, the monitoring strategy, the parameter used to detect a malfunction and the malfunction criteria limits against which the parameter is evaluated, any secondary parameter values and the operating conditions needed to run the monitor, the time required to execute and complete a monitoring event for both a pass decision and a fail decision, and the criteria or procedure for illuminating the MIL. In these tables, manufacturers would be required to use a common set of engineering units to simplify and expedite the review process.

We are also proposing that the manufacturer submit a logic flowchart for each monitor that would illustrate the step-by-step decision process for determining malfunctions. Additionally, we would need any data that supports the criteria used to determine malfunctions that cause emissions to exceed the specified malfunction thresholds. The manufacturer would have to include data that demonstrates the probability of misfire detection by the misfire monitor over the full engine speed and load operating range (for gasoline engines only) or the capability of the misfire monitor to correctly identify a “one cylinder out” misfire for each cylinder (for diesel engines only), a description of all the parameters and conditions necessary to begin closed-loop fuel control operation (for gasoline engines only), closed-loop EGR control (for diesel engines only), closed-loop fuel pressure control (for diesel engines only), and closed-loop boost control (for diesel engines only). We would also need a listing of all electronic powertrain input and output signals (including those not monitored by the OBD system) that identifies which signals are monitored by the OBD system, and the emission data from the OBD demonstration testing (as described below). Lastly, the manufacturer would be expected to provide any other OBD-related information necessary to determine the OBD compliance status of the manufacturer’s product line.

We are also proposing that manufacturers self-test a small fraction of their product line to verify compliance with the OBD requirements. The test requirements are divided into three distinct sections with each section representing a test for a different portion of the OBD requirements. These three sections being: compliance with the applicable SAE and/or ISO standardization requirements; compliance with the monitoring requirements for proper DTC storage and MIL illumination; and, compliance with the in-use monitoring performance ratios.

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

5(a) Agency Activities

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

- Review and interpret regulations, provide guidance;
- Gather applications from the industry, enter data into the database;
- Review the applications for completeness and accuracy;
- Verify that the correct engines 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, including making it available through the Internet;
- Analyze and manage requests for confidentiality;
- Determining if "carry over" of data from a previous model year is appropriate or if new testing will be required; and
- Store, file and maintain data.

5(b) Collection Methodology and Management

EPA currently makes extensive use of electronic media in gathering and evaluating information from engine manufacturers. Manufacturers submit Certification data in electronic formats.

Once the data is received, the information is entered into a database and reviewed for completeness. If the manufacturer chooses to make hard copy submittals, then EPA manually enters the information into the database. The certification reviewer analyzes the information to ensure compliance with the CAA and applicable regulations.

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

5(c) Small Entity Flexibility

There are no small entities being regulated by the OBD requirements, therefore, no small entity flexibilities are needed.

5(d) Collection Schedule

Collection frequency is largely determined by the manufacturer's marketing and product plans. Information must be submitted for each 'model year' that a manufacturer intends to build (or import) an engine model. A certificate of conformity must be obtained before the start of production (or importation). Taking these two considerations into account, manufacturers

normally submit information on an annual basis and submit their applications at their earliest convenience.

6. Estimating the Burden and Cost of the Collection

6(a) Estimating Respondent Burden

Burden estimates were taken from the previous ICRs and adjusted to reflect comments from fewer than 10 respondents consulted by EPA and EPA experience in these and other similar programs.

6(b) Estimating Respondent Costs

(i) Estimating Burden Hours

To estimate labor costs, EPA used the Bureau of Labor Statistics' National Industry-specific Occupational Wage Estimates (May 2005) for the Engine and Turbines Industry (SIC 351) and increased by a factor of 2.1 to account for benefits and overhead. The specific rates used are listed below in Table 1. These are mean hourly rates. Table 2 (attached) summarizes the respondent costs associated with this collection.

**Table 1
Labor Costs Estimates**

Occupation	SOC Code Number	Mean Hourly Rate (BLS)	110%
Mechanical Engineers	17-2141	\$33.65	\$70.67
Engineering Managers	11-9041	\$50.71	\$106.49

Lawyers	23-1011	\$53.13	\$111.57
Secretaries, Except Legal, Medical and Executive	43-6014	\$14.95	\$31.39

(ii) Estimating Capital and Operations and Maintenance Costs

There are no capital costs associated with this collection as manufacturers already have in place testing facilities and infrastructure to gather this data and the proposed OBD requirements would not require manufactures to create any new testing facilities as a result of this action.

EPA estimates that there will be approximately \$10,000 per respondent for operation and maintenance costs for these new requirements.

(iii) Capital/Start Up Costs

There are no capital or start up costs associated with the renewal of this ICR. (See 6(b)(ii) for details.)

(iv) Annualizing capital costs

There are no capital costs associated with the renewal of this ICR. (See 6(b)(ii) for details.)

6(c) Estimating Agency Burden

Table 4 (attached) summarizes EPA's labor costs associated with this information collection based on Agency labor costs summarized below in Table 3. These costs are based on 2006 hourly wage rates obtained from the Office of Personnel Management and adjusted by a factor of 1.6 to account for benefits and overhead.

Table 3 Agency Labor Costs

Occupation	Hourly Rate	160%
Engineer (GS-13/6)	\$43.24	\$69.18
Lawyers (GS-13/7)	\$44.48	\$71.17
Managers (GS-15)	\$51.52	\$82.43
SES-1	\$87.62	\$140.19

6(d) Estimating the Respondent Universe and Total Burden and Costs

6(d)(1) Certification Estimates

There are 12 companies in this sector which manufacture on-highway heavy-duty engines that will be required to certify their OBD systems as part of their overall application for certification.

6(e) Bottom Line Burden Hours and Cost Tables

(i) Respondent Tally

Table 5
Total Estimated Respondent Burden And Cost Summary

Program	Number of Respon	Number of Activities	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
Certification	12	12	2484	\$1,226,478	0	\$10,000	\$1,236,481

(ii) *The Agency Tally*

Table 6
Total Estimated Agency Burden And Cost Summary

Program	Number of Respon	Number of Activities	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
Certification	12	12	9804	\$426,149	0	\$0	\$762,341

6(f) Reasons for change in burden

Current ICR Burden: 149,702 hours
Previous ICR Burden: 147,218 hours
Change: 2,484 hours

There is an increase of 2484 hours in the total estimated burden for ICR 1684.08 currently identified in the OMB Inventory of Approved ICR Burdens. This increase is due to the addition of information being collected as a result of new requirements for manufacturers to install and perform in-use testing on onboard diagnostic systems onto heavy-duty highway engines.

6(g) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is estimated to average 2.5 hours per response. 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 EPA. 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 EPA 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.

To comment on the Agency's 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-2005-0047, 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) 566-1927. 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-2005-0047 and OMB Control Number 2060-0287 in any correspondence

Table 2

Annual Respondent Burden and Cost - OBD Program

Heavy-Duty On-Highway Engines

Information Collection Activity	Hours and cost per application											Total hours and cost		
	Engineer @70.67/hr	Manager @ \$106.49/hr	Legal @ \$111.57/hr	Test Cell Operator @ \$48.40/hr	Transportation @ \$37.38/hr	Clerical @ \$31.39/hr	Respon. hr/yr	Labor Cost/yr	Capital Startup Cost	O & M Cost(1)	Applications/ respondent (2)	Number of Respon.	Total hr/yr	Total Cost/yr
Review of regs and guidance document	1	0	0	0	0	0	1	71	0	0	2.0	12	12	1,696
Developing eng families groups	1	0	0	0	0	0	1	71	0	0	2.1	12	12	1,781
Developing deterioration factors	5	0	0	5	0	0	10	595	0	0	5.9	12	120	42,151
Testing/Gathering emission data on test engines	105	40	10	15	0	0	170	13,522	0	0	5.6	12	2,040	908,655
Laboratory maintenance (1)	0	0	0	0	0	0	0	0	0	0	1.0	12	0	0
Test Cost (annualized)(1)	0	0	0	0	0	0	0	0	0	0	3.1	12	0	0
Analyze data to determine compliance	0	0	0	0	0	1	1	31	0	0	7.1	12	12	2,674
Preparing and submitting certification application and fee filing form	15	3	2	0	0	0	20	1,603	0	0	13.7	12	240	263,477
Preparing and submitting "carry over" applications	0	0	0	0	0	0	0	0	0	0	8.0	12	0	0
Fee HD Federal (3)	0	0	0	0	0	0	0	0	0	0	1.7	12	0	0
Fee HD California only (3)	0	0	0	0	0	0	0	0	0	0	1.0	12	0	0
Fee Nonroad CI (3)	0	0	0	0	0	0	0	0	0	0	11.8	12	0	0
Preparing and supporting running changes	0	0	0	0	0	2	2	63	0	0	7.6	12	24	5,726
Store, file and maintain records	0	0	0	0	0	2	2	63	0	0	13.7	12	24	10,321
Total per respondent	127	43	12	20	0	5	207	16,018	0	varies	varies	12	207	N/A
Total for the industry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$1,236,481	0	\$0	varies	12	2,484	\$1,236,481

(1) See section 6(b)(i) for details.

(2) See section 6(d) for details.

(3) See section 6(b)(ii) for details.

Table 4
Annual Agency Burden and Cost - OBD Program
On-highway HD Engines

Information Collection Activity	Hours and cost per application									Total hours and cost			
	Engineer @ \$69.18/hr	Senior @ \$0	Attorney @ \$71.17/hr	Manager @ \$82.43/hr	SES-1 @ 140.19	Respon. hr/yr	Labor cost/yr	Capital Startup Cost	O & M Cost (1)	Applications /respon	Number of Respon.	Total hr/yr	Total cost/yr
Review of regs and standards	6	0	3	3	1	13	1,016	0	0	1	12	156	12,193
Entering data from applications into database	2	0	0	0	0	2	138	0	0	13	12	312	21,584
Reviewing applications, asking questions	9	0	0	0	0	9	623	0	0	13	12	1,404	97,129
Verifying that the correct engines have been tested	2	0	0	0	0	2	138	0	0	13	12	312	21,584
Answering manufacturers' questions	9	0	6	3	1	19	1,437	0	0	13	12	2,964	224,191
Issuing appropriate certificates	2	0	0	0	0	2	138	0	0	13	12	312	21,584
Storing data	3	0	0	0	0	3	208	0	0	13	12	468	32,376
Answering questions from the public	3	0	4	4	2	13	1,102	0	0	13	12	2,028	171,962
Upgrading and maintaining the database	7	0	0	4	2	13	1,094	0	0	1	12	156	13,132
Handling requests for confidentiality	2	0	4	2	2	10	868	0	0	13	12	1,560	135,452
Making information available to the public	7	0	0	2	2	11	930	0	0	1	12	132	11,154
Total	52	0	17	18	10	97	7,693	0	0	N/A	N/A	N/A	N/A
Total for the agency	N/A	0	N/A	N/A	N/A	N/A	\$762,341	0	\$0	13	68	9,804	\$762,341

(1) Includes photocopying, postage expenses and calls.