

Supporting Statement
for
Information Collection Request

**Emissions Certification and Compliance Requirements for Nonroad
Compression-ignition and On-highway Heavy Duty Engines**

**(Proposed Rule for Alternative Fuel
Conversions of Heavy-Duty Engines)**

EPA ICR 1864.15
OMB Control Number 2060-0287

May 2010

Compliance and Innovative Strategies 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 and Compliance Requirements for Nonroad Compression-ignition and On-highway Heavy Duty Engines (Proposed Rule for Alternative Fuel Conversions of Heavy-Duty Engines); EPA ICR number 1684.15, OMB Control Number 2060-0287.

1(b) Short Characterization/Abstract

The Environmental Protection Agency is proposing changes designed to simplify and lessen the burdens for manufacturers seeking approval to introduce into commerce in the U.S. light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, and heavy-duty vehicles and engines that have been converted for use of fuels that the original models were not designed for, such as from gasoline to liquid propane gas (LPG) or compressed natural gas (CNG). This ICR covers the heavy-duty portion of the proposal.

These changes would start taking effect with 2011 model year light-duty vehicles and trucks or upon the effective date of the final rule. Starting then, manufacturers will be given expanded options for submitting simplified applications. ICRs normally have a three year time horizon. This ICR will cover the expected paperwork burden changes for the three years after the effective date of the final rule.

Under previous iterations of this ICR, EPA analyzed the cost of obtaining a certificate of conformity under current regulations and used that as a baseline cost. This Supporting Statement addresses only the anticipated paperwork burden of the proposed rule in relation to the existing baseline.

It is important to note that HD conversions have not received as much interest as LD conversions. As a result, EPA's experience with and data available on HD conversions is limited. For example, in model year (MY) 2008, EPA only received seven certification applications from four different converters. In 2009, the number drop to three applications from three different manufacturers. Despite limited historical data on HD conversions, EPA has evaluated the cost a converter would incur to fully certify a HD engine that has been converted at each of three stages in the life of the engine: (1) beginning of useful life, (2) mid-useful life, and (3) outside the useful life. These costs are then compared to the baseline -- the current cost of certification.

It has been estimated that a total of 8 manufacturers will respond to this collection (proposed rule only) with an approximate cost of \$753,786.

Section 2: Need For And Use of the Collection

2(a) Need/Authority For The Collection

Under Title II of the Clean Air Act (CAA, 42 U.S.C. 7521 et seq.), EPA is charged with issuing certificates of conformity for motor vehicle designs that comply with applicable emission standards set under section 202(a)(1) of the Act. A manufacturer must have a certificate before vehicles may be legally introduced into commerce. To insure compliance with the Act, EPA reviews product information and manufacturer test results; EPA also tests some vehicles to confirm manufacturer results.

Section 203 of the CAA contains “anti-tampering” provisions prohibiting alteration of OEM vehicle components relevant to the vehicle’s certification under the Act. Regulations at 40 CFR, Part 85, Subpart F, provide exemption for aftermarket conversion systems from these tampering prohibitions for those converters complying with the regulations of that Part. Under Subpart F, these exemptions are currently administered through a certification process that is modeled on the OEM certification provisions: converters submit certification requests for engine families, and those that satisfy EPA’s regulations upon review are granted certificates of conformity for one model year.

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 compliance with emission standards.

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, measure the impact of nonroad engines’ emissions on air quality, and take corrective actions as needed.

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

Section 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.

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

An announcement of the public comment period for this ICR renewal will be published in the Federal Register on May 26, 2010. This document may be accessed through the Federal Register's website at <http://www.gpoaccess.gov/fr/index.html>.

3(c) Consultations

The burden estimates described in this ICR is based on the HD certification program burden already approved by OMB under ICR 1684. EPA is currently seeking comment on these estimates through the FR notice mentioned in Section 3(b). EPA plans to seek comment on HD conversions from various converters before this ICR is finalized. The final ICR will contain information about any comments received.

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 related records must be maintained for eight years. Note that "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.

This information collection activity complies with the remaining guidelines in 5 CFR 1320.5. The proposal makes no changes in the reporting and recordkeeping provisions that impact any of the guidelines for information collections as approved in the existing approved 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.

Section 4: Respondents and Information Requested

4(a) Respondents/NAICS Codes

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

336312 Gasoline Engine and Engine Parts Manufacturing

4(b) Information Requested

(i) Data items

The information and reporting burden associated with this rule occurs within the context of EPA's motor vehicle and engine certification and compliance programs. Currently requested data items related to heavy-duty engine certification are discussed in detail in ICR 1684.12. Converters seeking certification for engines converted at the beginning of their useful lives are expected to go through current certification procedures. However, under the proposed rule, the amount of information collected from converters will be reduced due to the proposed provision that will allow the grouping of multiple engine families into a larger one. Currently, engine manufacturers and converters must submit one certification application per engine family, as currently defined in the regulations. Under the proposed rule, converters of beginning-of-useful life engines will be able to obtain one certificate for a group of engine families. Engine families must share certain characteristics before they can be combined into a larger family. This provision may reduce converters reporting burden by up to 50%.

Converters of intermediate age engines will be able to submit a simplified testing demonstration without the burdens of the formal certification application process. Since EPA will not issue a certificate of conformity, intermediate age engine converters will also benefit from not having to pay the certification fee currently required under the authority of Section 217 of the CAA and the Independent Offices Appropriation Act (31 U.S.C. 9701).

Converters of engines outside their useful life will also benefit from a reduced burden. EPA is currently seeking comment from the public on the suitability of three proposed options to provide adequate demonstration of compliance.

In general, reporting formats will describe the major aspects of the proposed product line, technical details of the emission control systems, and the results of any required tests to indicate compliance with the emissions limitations.

The following is a list of data items added or revised by the proposed rule. As mentioned above, ICR 1864.12 lists the rest of the data items currently required for certification and that would apply to converters of beginning-of-useful-life engines.

For all vehicles:

- expanded conversion test or "demonstration" groups
- exemption from HCHO testing for conversions to CNG and LPG
- conversion factors for calculating NMOG for conversions to CNG and LPG
- new VECI label requirement describing test group, mileage, and date

For intermediate-age and outside useful-life age vehicles (25%)

- online notification and test result report rather than application for certification (savings in "paperwork" burden) or compliance "demonstration" for outside useful-life conversions
- description of OBD compliance strategy or OBD demonstration rather than current OBD test results
- Intermediate-age and outside useful-life engine families will not be required to pay a certification fee.

(ii) Respondent Activities

While there is no "typical" converter respondent, all converters must submit a description of their product and test data to verify compliance. As described in Section 4(b) (i), in some cases the proposal would replace the current application and certification process with an alternative, simpler process. Converters of beginning-of-useful life engines will carry-out the same activities as other engine manufacturers currently seeking certification.

Section 5: The Information Collected—Agency Activities, Collection Methodology, and Information Management

5(a) Agency Activities

In general, EPA officials carry out the following activities:

- Review and interpret regulations, provide guidance;
- Review the applications for completeness and accuracy;
- Verify that the correct engines have been selected and tested;
- Verify compliance with applicable provisions;
- Request additional information if needed;
- Answer questions from manufacturers and the public;
- Issue appropriate certificates of conformity, as applicable;
- Periodically perform maintenance or enhance the database;
- Make data available to the public;
- 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, ABT, PLT and SEA data in electronic formats.

Once the data are 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 analyses 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 HDNEG or through the Engine Certification Information Center at <http://www.epa.gov/otaq/certdata.htm>.

5(c) Small Entity Flexibility

Small on-highway engine manufacturers may use optional procedures outlined in 86.098 to demonstrate compliance with the general standards and specific emission requirements. These procedures, also available to HD converters, apply to manufacturers with US sales of fewer than 10,000 units. The alternate procedures reduce small manufacturers' burden associated with durability data requirements, testing, determination of deterioration factors and certification test data. Converters may also request EPA to assign deterioration factors, thus eliminating that burden completely.

Small volume manufacturers are also exempt from some reporting and recordkeeping

requirements associated to the certification of evaporative families (86.098-22(m)).

EPA can also approve a reduction in the certification application fee upon request by the manufacturer. A fee waiver could be granted if: (1) the certificate is to be used to sell engines within the United States; and (2) the full fee exceeds 1% of the aggregate projected retail sales price of all vehicles covered by the certificate of conformity. Although this is a provision available to all manufacturers, it is beneficial to some small manufacturers. Section 6(b)(ii) provides more details.

5(d) Collection Schedule

Collection of certification data (or demonstration data when applicable) on a per engine family basis occurs on occasion. Overall collection frequency is largely determined by the converter's marketing and product plans. Information must be submitted for each 'model year' that a converter intends to build engines and a certificate of conformity must be obtained before the start of production. Taking these two considerations into account, manufacturers normally submit information on an annual basis and submit their applications at their earliest convenience.

Running change and correction applications are submitted by manufacturers as the need occurs.

Section 6: Estimating the Burden and Cost of the Collection

6(a) Estimating Respondent Burden (Hours)

Since the current process for certifying an engine family will remain basically unchanged for converted families, burden estimates were taken from the previous supporting statement in this ICR series. Costs have been updated and reflect the impact of the new, broader definition of engine family proposed by this rule. Tables 1 through 3 summarize the respondents' overall burden associated with this ICR.

6(b) Estimating Respondent Costs

(i) Estimating labor costs

To estimate labor costs, EPA used the Bureau of Labor Statistics' May 2008 industry specific occupational hourly wage estimates for the Motor Vehicle Manufacturing Industry (NAICS 336100). EPA then increased the hourly wage estimates by a factor of 2.1 to account for benefits and overhead. The specific rates used are listed below. These are mean hourly rates.

Table 4
Labor Costs Estimates

Occupation	SOC Code Number	Mean Hourly Rate (BLS)	2.1 Factor for Overhead and Benefits
Mechanical Engineers	17-2141	\$37.59	\$78.94
Engineering Managers	11-9041	\$54.56	\$114.58
Lawyers	23-1011	\$67.14	\$140.99
Secretaries, Except Legal, Medical and Executive	43-6014	\$19.76	\$41.50

(ii) Estimating Capital and Operations and Maintenance Costs

The Operation and Maintenance costs (O&M Costs) in this ICR look somewhat different from those explained in the rule preamble. The language in the preamble sought to explain all the costs a converter may incur in its effort to obtain new exhaust emissions certification and new evaporative emissions certification for its products. Since manufacturers can “carry-over” test data from one model year to the next, converters need to test their engine families only once unless major changes are made to the engines. In this ICR, one time costs such as testing have been annualized.

So far, all HD converters are small businesses. EPA believes this will still be the case after this rule is finalized. Small businesses contract outside laboratories to perform testing. Therefore, there are no capital start-up costs associated with this collection.

EPA has estimated that testing at a private facility costs, on average, \$30,000. Evaporative testing costs, on average, \$7,050. Testing cost, however, is a one-time cost per engine family since manufacturers can carry over emissions data from one model year to the next. This cost has been annualized over the approval period requested for this ICR (3 years).

Heavy-Duty and Large Nonroad CI: \$10,000
Evaporative testing: \$2,350

Converters of beginning-of-useful-life engines are required to pay a fee every model year when submitting an application for a certificate of conformity. This fee is requested under the authority of the CAA Section 217. EPA published a revision to its 2010 schedule of fees in the document CIRD-09-05. The relevant fees for calendar year 2010 are:

Federal Exhaust Certificate: \$35,967
Evaporative-only: \$511

The fees rule provides for a reduction in fee when "the full fee exceeds 1.0 percent of the projected aggregate retail price of all vehicles or engines covered by that certificate" (69 FR 26226, Section F). The reduced fee must not exceed one percent of the aggregate retail price of the vehicles and engines covered by the certificate.

Since all respondents are small businesses and no laboratories will be built or modified to comply with the new rule, there are no capital start-up costs associated with this collection.

Other O&M Costs associated with this information collection include CDs, photocopying, postage and other shipping expenses, calls, and testing costs. CDs are used by manufacturers to submit their electronic applications and to keep records.

(iii) Start-up Costs

There are no capital start-up costs associated with the renewal of this ICR.

(iv) Annualizing capital costs

There are no capital start-up costs associated with this information collection.

6(c) Estimating Agency Burden

Table 5 summarizes EPA's overall additional burden associated with the proposed rule. Table 6 below summarizes EPA's labor. These costs are based on 2010 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 6
Agency Labor Costs**

Occupation	Hourly Rate	160%
Engineer (GS-13/10)	\$55.46	\$88.74
Lawyers (GS-13/10)	\$55.46	\$88.74
Managers (GS-15)	\$65.23	\$104.37
SES-1	\$99.00	\$158.40
Senior (SEE Program)	\$13.81	\$20.72 (see text below)

The salary of a senior from the Senior Environmental Employment (SEE) Program for clerical support is \$13.81 per hour plus approximately 150% increase for benefits, for a total of \$20.72. EPA also pays \$2,151.83 as an administrative fee to the Senior Services America, Inc.,

the organization from which EPA's SEE Employees are obtained. These data were obtained from HDNEG's financial officer.

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

Interest in HD conversions has been low in the past. In model year 2008, EPA received only seven applications for certification from a total of four converters; while in 2009, only three of those converters submitted one application each. EPA understands that this is in part due to converters not submitting an application until they find a market for the engines. The amount of engines in a HD engine family is typically lower than the amount of engines in a LD test group. Since the cost of certification is spread over a smaller pool of engines, it is more expensive to certify a HD family on a per engine basis. This fact discourages many companies from seeking certification for heavy-duty products.

Based on the experience of EPA certification reviewers, the Agency estimates that interest in heavy-duty conversions certification may double as a result of the proposed rule. This is due to the ability to combine engine families into a larger group that could be certified as one family with only one emissions test. EPA estimates that eight converters will seek certification for 12 converted heavy-duty engine families (under the new, expanded definition) after the rule becomes final.

Since the process for demonstrating compliance with emission requirements differ depending on the age of the engines being converted, EPA has accounted for each stage separately.

i. Beginning-of-Useful-Life Engine Conversions

Converters of beginning-of-useful-life engines must seek full certification. There are three distinct costs these converters will incur in.

- Exhaust emissions certification: Table 1 summarizes burden and costs for exhaust certification of these families.
- Evaporative emissions certification: Converters will also need to obtain a certificate of conformity with evaporative emission requirements. Table 2 summarizes costs and burden associated with evaporative certification.
- OBD compliance demonstration.

Currently, alternative fuel converters are required to submit test data to demonstrate compliance with OBD regulations. However, 40 CFR 86.010-18(o) provides exemptions for small volume and alternative fueled engines used in applications over 14,000 lbs. All HD converters who have sought EPA certification in recent years have been able to claim one of these exemptions.

In an effort to also reduce costs for those HD manufacturers who are not able to claim this exemption, EPA is accepting through 2013 approval issued by either the California Air

Resource Board (CARB) or the EPA Light-duty (LD) Certification Program as proof of compliance. Manufacturers must demonstrate how the OBD system they have designed to comply with California OBD requirements also complies with the intent of federal requirements. So far, HD manufacturers have been able to either claim the exemption or submit approval from CARB or the LD Team. Therefore, EPA does not have historical data to use as basis for OBD demonstrations specifically related to HD conversions.

Based on past experience with both HD engine and converted engine certification, EPA estimates that all converters will be able to use one the provisions described above to avoid the cost of HD OBD compliance through the period covered by this ICR. The cost of LD OBD compliance demonstration is already accounted for in ICR series 783.

If we needed to account for these costs now, EPA considers it appropriate to adopt for HD, the estimates developed by the LD program described in ICR 783.55: \$26,317.

ii. Intermediate age Engine Conversions

Under the proposed rule, converters of intermediate age engines will be required to gather and submit all required data, including test data. However, the proposed rule does not require EPA to issue a certificate of conformity for intermediate age engines. Instead, the Agency will collect the data and audit it from time to time. In addition, OBD testing will not be required for intermediate conversions. The submission of the complete emissions data demonstrating compliance will in itself cover the manufacturer from certain enforcement actions. Since EPA will not issue a certificate of conformity, fees will not be collected.

As a result, the cost of demonstrating compliance for intermediate age engine conversions will be the same as for beginning-of-life engine conversions with the exception of fees and OBD demonstration costs. Table 3 shows these costs and burden.

EPA believes that there is little interest in intermediate age engine conversions. Therefore, EPA has estimated that two manufacturers will demonstrate compliance for one engine family each.

iii. Outside-useful-life conversions

Burden and costs associated with demonstrating compliance for outside useful life applications will depending on which option is selected in the final rulemaking.

EPA would expect the maximum testing costs for Option #1 to be equivalent to those costs incurred for intermediate age vehicle compliance, since conducting all testing required for the intermediate age engine program would always be an acceptable demonstration of good engineering judgment.

Maximum testing costs for Option #2 would be double that of the intermediate age

engine program, since two sets of emissions test data would be required. However, the costs would still be less than the baseline costs because no OBD demonstration testing would be required.

Maximum testing costs for Option #3 would be sum of the cost for Option #1 and about \$300. An OBD scan tool with capabilities for printing via a computer and printer can be acquired for less than \$300.

Based on past experience, EPA does not expect to have any respondents interested in outside-useful-life conversions. Therefore, no burden is allocated for these conversions in this ICR.

6(e) Bottom Line Burden Hours and Cost

(i) *Respondent Tally*

**Table 6
Total Estimated Respondent Burden and Cost Summary**

Program (Age of Converted Engine)	Number of Respondents	Number of Activities	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
Beginning-of-Useful Life	8	12	1,002	\$ 86,279	-	\$ 562,744	\$ 649,023
Evaporative Cert	8	8	354	\$ 29,177	-	\$ 34,408	\$ 63,585
Intermediate Age	2	11	219	\$ 19,307	-	\$ 21,871	\$ 41,178
Outside Useful Life	-	-	-	-	-	-	-
Total:	8	31	1,575	\$ 134,763	-	\$ 619,023	\$ 753,786

(ii) *The Agency Tally*

Table 7
Total Estimated Agency Burden and Cost Summary

Program (Age of Converted Engine)	Number of Respondents	Number of Activities	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
All programs	8	12	3,101	\$ 237,382	\$ -	\$ 604	\$ 237,986

6(f) Reasons for change in burden

The burden described in this ICR adds to the existing inventory for this ICR series. This increase is due to the expected increase in respondents.

6(g) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is, on average, 197 hours per respondent (1,575 total hours/8 respondents). 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.

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-OAR-2009-0299, which is available for online viewing at www.regulations.gov, or in person viewing at the Air And Radiation Docket in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. 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 is also (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-2009-0299 and OMB Control Number 2060-0287 in any correspondence.