

**Supporting Statement**  
**for**  
**Information Collection Request**

Emissions Certification and Compliance Requirements for  
Marine Spark-Ignition Engines (Final Rule)

42 USC 7521 § 206  
42 USC 7521 § 208  
42 USC 7521 § 213(d)  
40 CFR Part 91

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

## **1. Identification of the Information Collection**

### **1(a) Title and Number of the Information Collection**

Emission Certification and Compliance Requirements for Spark-ignition Marine Engine (Proposed Rule), EPA Number 1722.06, OMB Control Number 2060-0321. The information collection requirements covered by this ICR were approved at the proposed rule stage under ICR 2251.01, Control of Emissions from Nonroad Spark-Ignition Engines and Equipment, OMB Control Number 2060-NEW. For the final rule, the requirements for the SI marine engines were separated out into this ICR.

### **1(b) Short Characterization**

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 certain spark-ignition (SI) engines used to propel marine vessels 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 line, including descriptions of the emission control system, and engine emission test data. This information is organized by "engine family." An engine family is a group of engines expected to have similar emission characteristics.

There are also record-keeping requirements. Under the regulations governing marine SI engines, manufacturers must use the Averaging, Banking, and Trading Program (AB&T) and must submit information regarding the calculation, actual generation and usage of emission credits in a certification application, an end-of-the-year report, and final report. These reports are used for certification and enforcement purposes.

The Act also mandates EPA to verify that manufacturers have successfully translated their certified prototype engines into mass produced engines, and that these engines comply with emission standards throughout their useful lives. Under the Production-Line Testing (PLT) Program, manufacturers are required to test a sample of engines as they leave the assembly line. This self-audit program increases efficiency and reduces the cost of correcting mis-builts and other errors made in the assembly line. Under the In-use Testing Program (In-use), manufacturers are required to test engines after a number of years of use to verify that they comply with emission standards throughout their useful lives.

It has been estimated that a total of up to 38 engine manufacturers, 43 hose/tank manufacturers and up to 300 vessel manufacturers will respond to this collection with an approximate cost of \$10,500,000, including \$6,600,000 in annualized capital or O&M costs.

## **2. Need for and Use of the Collection**

### **2(a) Need/Authority for the collection**

EPA's emission certification programs are statutorily mandated; the EPA 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."

Section 213(d) of the CAA extend this and other provisions (including the ones cited below) to marine SI engines. Regulations implementing these requirements are found at 40 CFR Part 91, Subparts A, B, D, E, L, and M.

EPA also conducts, under 40 CFR Part 91, Subpart C, an Averaging, Banking, and Trading (AB&T) program. This program is one of many regulatory features designed to enhance compliance flexibility for, and reduce the burden on, the affected engine manufacturers, without compromising the expected emissions benefit derived from these emissions standards.

Section 206(b)(1) of the Act authorizes EPA to require testing of new vehicles and engines to verify that actual production engines do comply with emission standards. The requirements of the Marine SI Production Line Testing Program (PLT) are codified at 40 CFR 91, Subpart F.

Section 207(b) of the Act mandates the establishment of methods and testing procedures to ascertain whether certified engines in actual use in fact comply with applicable emission standards throughout their useful lives. The In-use Testing Program procedures for marine SI engines are codified at 40 CFR 91, Subpart I.

## 2(b) Practical Utility/Users of the Data

EPA uses the information requested under this collection to verify and support a three stage compliance assurance system envisioned in the CAA. The certification information is needed to verify that the proper prototype engines have been selected to represent each marine SI engine family (group of engines expected to have similar emission characteristics), and that the necessary testing has been performed to assure that each marine SI engine family complies with emission standards. Based on this information, EPA issues a certificate of conformity. However, prototypes are often hand-built and not typical of assembly line engines.

The information collected under the PLT program is used to verify that manufacturers have successfully translated their prototypes into mass-produced engines. A sample of engines is taken directly from the assembly line and tested. This self-audit program allows manufacturers to monitor compliance with statistical certainty. It minimizes the cost of correcting errors through early detection (manufacturers need to recall engines if they are later found defective)

and the additional pollution generated by defective, noncompliant engines being used before a problem is detected.

In-use testing is designed to determine if engines maintained in accordance with the manufacturers instructions still emit at acceptable levels after a number of years of actual use. If a family of marine SI engines is found not to comply, manufacturers are required to recall the family.

The AB&T program allows manufacturers to generate emission credits. Under averaging, a manufacturer could certify one or more engine families within its product line at levels above the emission standard, provided the increased emissions are offset by emission reductions from one or more families certified below the standard. The average emissions (weighted by horsepower and production) from all the manufacturer's engine families involved in the program in a given model year must be at or below the corporate average emission standard. The banking program allows manufacturers to bank credits generated in one model year for use in averaging or trading in subsequent model years. The trading program allows credit transactions between manufacturers. The AB&T program minimizes the economic burden on the manufacturers by allowing them to apply a fleet average technology mix to minimize their cost and maintain a variety of products. It reduces the impact of the program by allowing higher emitting engines to be off-set by engines with lower emissions. Participation in the averaging portion of the AB&T program is required.

The information will be received, reviewed, and used by the Heavy-duty and Nonroad Engines Group (HDNEG), Compliance and Innovative Strategies Division, Office of Transportation and Air Quality, Office of Air and Radiation. Non-confidential portions of the information submitted to HDNEG are also used by importers, engine users, and environmental groups.

### **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 some of 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 Required Prior to ICR Submission to OMB**

The NPRM was published in 2006 and no comments were received. The final rulemaking for nonroad Small SI engines will be published in the *Federal Register* regarding emission standards for nonroad Small SI and Marine SI engines.

#### **3(c) Consultations**

For the NPRM, we met with companies that will be subject to the new emission standards. For the FRM, we continued discussions on issues raised in the comment period for the NPRM and on other issues raised in the time prior to the FRM.

Industry and other interested parties commented on the NPRM for this rulemaking. A number of meetings have been held with various industries covered by this rulemaking, as part of the rulemaking process, to address issues raised in their comments.

### 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.

Entities electing to engage in emission credit trades or transfers must submit quarterly reports of their holdings or receipts when their credits are gained or lost. The number of credits generated or lost is proportional to the number of engines produced; therefore, it is best for manufacturers trading credits to update their credit calculations every quarter when they update their internal production volume reports. This ensures that the manufacturer holds valid credits and warns manufacturers in advance of the need to acquire credits. Manufacturers must not have a negative credit balance at the end of the year.

PLT reports must also be submitted on a quarterly basis for similar reasons. Manufacturers are required to test up to one percent of their production at random to ensure that mass produced marine SI engines comply with emission requirements. If a problem is found, manufacturers must correct it and might need to recall engines that have already been sold. By conducting this quality control testing on a quarterly basis, manufacturers learn about any problems early and are, therefore, able to minimize costs.

In-use testing reports must be submitted once per year, within three months of the completion of the required testing. Providing this information to EPA at a less frequent interval would compromise the Agency's ability to expeditiously evaluate the emissions results and determine, in a timely manner, whether in-use marine SI engines conform to emission standards. Any delay in making such a determination reduces the universe of marine SI engines which will be reached by the recall because both engine scrappage and owners' unwillingness to participate in recalls increase with the age of the engine.

### 3(e) General Guidelines

According to 40 CFR 91.121 and 91.209, certain 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 record-keeping requirements originate, in large part, from the statutory requirement to warrant some emission-related

components 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 life.

Manufacturers are required to submit confidential business information such as sales volume projections and certain sensitive technical descriptions (see section 4(b)(i) below 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 confidential until the specific engine to which it pertains is available for purchase.

Also, if PLT results indicate noncompliance, manufacturers are required to notify EPA within ten days, instead of the 30 days provided by the guidelines. EPA needs this quick notification of test failures to rapidly evaluate the situation and determine whether the affected engine family does not comply with emission requirements. If that is the case, both the Agency and the manufacturer need to take appropriate action to prevent the introduction of noncomplying engines 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 (FOIA) 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 include manufacturers of non-road engines, fuel tank and hose manufacturers, and boat builders and equipment manufacturers within the following North American Industry Classification System (NAICS) code:

Table 1  
NAICS and SIC Codes for Respondent Categories

Respondent Categories	NAICS Codes <sup>a</sup>	SIC Codes <sup>b</sup>
Gasoline Engine and Engine Parts Manufacturing	336312	---
Other Engine Equipment Manufacturing	333618	3519
Boat Building	336612	3732
All Other Transportation Equipment Manufacturing	336999	3799
Motor and Generator Manufacturing	335312	3621
All Other Miscellaneous Manufacturing	339999	---

<sup>a</sup>North American Industry Classification System (NAICS)

<sup>b</sup>Standard Industrial Classification (SIC) system code.

#### 4(b) Information Requested

All engine manufacturers must describe their product(s) and supply test data to verify compliance. This information is organized by "engine family" groups expected to have similar emission characteristics. Manufacturers must also retain records. Marine OB/PWC engine manufacturers will have new emission standards beginning in 2010. Marine SD/I engine manufacturers will have their first emission regulations beginning in 2010. Exhaust emission criteria for this new regulation can be found in Part 1045. Part 90 is referenced here for the emission standards will not begin to be phased in until the 2010 model year.

After the model's first production year, a manufacturer's burden for a given engine family is greatly reduced because data and information on an engine family from previous years can be "carried over" indefinitely, as long as no significant changes have occurred. For instance, an engine family certified in model year 2004 can be certified in the 2005 model year by "carry over" of data and paperwork from the 2004 model year if no significant changes have occurred to the engine family between model years. Allowing manufacturers to "carry over" data and paperwork saves manufacturers the burden of duplication of cost and effort which would occur in the absence of such provisions.

There are also warranty and maintenance requirements for all certified engine families.

Certification information is also requested from tank and hose manufacturers. Marine vessel manufacturers may certify if they choose to use averaging for evaporative components or if they manufacturer their own tanks. The evaporative emissions control requirements are found in Part 1060. Implementation dates are listed in Table 2.

Table 2 to '1060.1C Part 1060 Applicability <sup>a</sup>

Equipment category or subcategory	Fuel line permeation	Tank Permeation	Diurnal Emissions	Running loss emissions
Marine SI C portable fuel tanks	January 1, 2009 <sup>b</sup>	January 1, 2011	January 1, 2010	Not applicable
Marine SIC personal watercraft	January 1, 2009	Model year 2011	Model year 2010	Not applicable
Marine SIC other installed fuel tanks	January 1, 2009 <sup>b</sup>	Model year 2012	July 31, 2011	Not applicable

<sup>a</sup> Implementation is based on the date of manufacture of the equipment. Where we do not identify a specific date, the emission standards start to apply at the beginning of the model year.

<sup>b</sup> January 1, 2011 for primer bulbs.

(i) Engine Manufacturer Data Items

The data items in the Tables A to J are requested under this information collection. Different items are requested depending on the type and specific characteristics of the engine family to be certified. Although most of the items must be included in the certification application, some of them are only required to be kept in records and submitted upon EPA's request, as provided by 91.107(f)(1). Beginning with the 2010 model year, all requirements are listed in sections 1045 for exhaust emission requirements from marine engines.

EPA encourages manufacturers to apply for certification and submit PLT and In-use information electronically, and has developed simple electronic application formats.

The Spark-Ignition Marine Engine Application Form contains all the data items engine manufacturers need to submit. A complete application consists of (1) a Statement of Compliance, (2) a Family Information Form (FIF), (3) a Test Information Form (TIF), (4) a Part Number Information Form (PNIF), (5) a Model Summary (MS), and (6) an AB&T Information form (AB&TIF). There is also a Marine Engine Production Line Testing Information Form and a Marine In-use Testing Information Form. Because these forms are regularly used by EPA, the expiration dates are not updated.

A. Certification:

**Table A**  
**Information Items Requested under the Certification Program**

Information Description	Basis for Requirement
Statement of compliance	91.107(b),(d)(10)& (11)
<b>FAMILY INFORMATION FORM</b>	
Identification and description of the basic engine design including, but not limited to, the engine family specifications (fuel, cooling medium, etc.)	91.107(d)
Explanation of how the emission control system operates	91.107(d)(2)
Vessel type (Useful life Period)	91.105(a)
Production period, estimated volume, plant & contact	91.107(e), 91.604(6)
Family Emission Limit	91.107(d)(7) 91.208(a)(2)
Adjustable Parameters description	91.107(d)(6)

(cont.)

**Table A**  
**Information Items Requested under the Certification Program (cont.)**

Information Description	Basis for Requirement
<b>TEST INFORMATION FORM</b>	
Test fleet description	91.107(d)(3)
Service accumulation duration	91.107(d)(5)
Cert test description & data	91.107(d)(4)
<b>PART NUMBER INFORMATION FORM</b>	
Emission-related part numbers	91.107(d)(2)
<b>MODEL INFORMATION FORM</b>	
Engine model description	91.107(d)(1)
<b>AB&amp;T INFORMATION FORM</b>	
(Item 51 does not exist)	----
Number and type of credits	91.208(a)(3)
Power & Average actual life	91.208(a)(4)
Use or Source of Credit(s)	91.208(a)(5)

The Part Number Information form allows EPA to make sure that a production engine is actually built in its certified configuration. This information is used when conducting Selective Enforcement Audits (SEAs).

The engine Model Information Form is requested to evaluate whether engine families were developed correctly. The information contained in this form allows EPA engineers to determine whether the engine models were grouped correctly, and whether the certification test engine corresponds to the worst case within the engine family. The calculation of the engine's rated power, torque, etc., is customary business practice.

Manufacturers must use the averaging provisions to demonstrate compliance with the corporate average emission standard, and may use any "banked" emission credits for averaging or trading in the following three model years.

**Table B**  
**Record-keeping Requirements - Certification and AB&T**

Information Description	Basis for Requirement
Copies of applications & other summary information filed with EPA	91.121(a)(1)
Copy of all data obtained thru the production line and in-use testing program	91.121(a)(2)
A history of each test engine used for certification, including:	
A description of test engine's construction	91.121(a)(3)(i)
A description of engine's service accumulation method	91.121(a)(3)(ii)
A description of all maintenance and other servicing performed	91.121(a)(3)(iii)
A description of all emission tests performed	91.121(a)(3)(iv)
A description of all tests performed to diagnose engine or emission control performance	91.121(a)(3)(v)
A description of any significant event(s) affecting the test engine	91.121(a)(3)(vi)
Routine data from emission testing	91.121(b)

\* Note: Records are to be kept for eight years, except routine emission records that are to be kept for one year.

When a manufacturer needs to make changes to a certified engine, or to add an engine model to an already certified engine family, the following information must be submitted. Running changes are submitted using the same electronic application template used to apply for the certificate of conformity. However, EPA asks that only the new or changed information be provided on the running change template.

**Table C**

**For Running Changes (Amendments to the Application)**

Information Description	Basis for Requirement
Notification of changes made to the application and request to amend the application	91.122(a)
A full description of the engine to be added, or change to be made	91.122(b)(1)
Manufacturer's proposed test engine	91.122(b)(2)
Engineering evaluations or reasons why the original test engine is/is not still appropriate	91.122(b)(3)
Upon EPA request, test data on the engine changed or added	91.122(c)
Supporting documentation, test data and engineering evaluations as appropriate to demonstrate that all affected engines will still meet applicable emission standards	91.122(e)(1)

B. Average, Banking and Trading:

**Table D  
Record-keeping Requirements under the Average, Banking, and Trading Provisions**

Information Description	Basis for Requirement
EPA engine family	91.209(a)(1)
Engine identification number	91.209(a)(2)
Engine build date and model year	91.209(a)(3)
Power rating	91.209(a)(4)
Purchaser and destination	91.209(a)(5)
Assembly plant	91.209(a)(6)
Family identification code	91.209(b)(1)
Family emission Limit	91.209(b)(2)
Power rating	91.209(b)(3)
Projected sales volume for the model year	91.209(b)(4)
Actual sales volume where FEL changes during year	91.209(b)(5)
<b>For families participating in trading, the following records must be kept quarterly:</b>	
Actual quarterly and cumulative applicable production/sales volume	91.209(c)(2)
Value required to calculate credits	91.209(c)(3)
Resulting type and number of credits generated/required	91.209(c)(4)
How and where credit surpluses are dispersed	91.209(c)(5)
How and through what means credit deficits are met	91.209(c)(6)

\* Note: Records are to be kept for eight years per 91.209(d).

**Table E**  
**End-of-Year and Final Reports**

Information Description	Basis for Requirement
For each family: actual sales volume, values required to calculate credits, and number of credits generated/required. Also: where credit surpluses were dispersed and how credit deficits were met. Copies related to credit trading. Calculation of credit balances.	91.210(a)

**Table F**  
**Hearings**

Information Description	Basis for Requirement
If the manufacturer requests a hearing on the Administrator's denial or revocation of a certificate of conformity, then the request shall be filed within 30 days of the Administrator's decision, shall be in writing, and shall set forth the manufacturer's objections to the Administrator's decision and data to support the objections.	91.124 (b), 91.211

C. Production Line Testing

Each calendar quarter, manufacturers must conduct testing on a sample {not to exceed the lesser of one percent of production or 30 engines, per engine family [91.506(b)(8)]} of engines taken directly from the assembly line. Per 91.509(e), within 30 days of the end of each quarter, manufacturers must report the information listed below. If engines fail to comply with standards, manufacturers must submit failed engine reports.

**Table G**  
**PLT Program**

Information Description	Basis for Requirement
Location and description of test facility	91.509(e)(1)
Total production and sample size	91.509(e)(2)
FEL	91.509(e)(3)
Sample selection description	91.509(e)(4)
Description of test engines	91.509(e)(5)
For each test:	
A description of test engine including configuration & engine family, year, make, and build date, engine identification number, number of hours of service accumulation	91.509(e)(6)(i)

**Table G  
PLT Program (cont.)**

<b>Information Description</b>	<b>Basis for Requirement</b>
Location and description of service accumulation	91.509(e)(6)(ii)
Test number, date, test procedure, initial (before and after rounding) and final test results for all tests,	91.509(e)(6)(iii)
Description of any adjustment, modification, repair, preparation, maintenance, and/or testing performed which will not be performed on all other production engines	91.509(e)(6)(iv)
CumSum analysis of test results	91.509(e)(6)(v)
Other information requested by EPA	91.509(e)(6)(vi)
For each failed engine, a description of the remedy and test results for all retests	91.509(e)(7)
Date of the end of the model year production for each engine family, and	91.509(e)(8)
A signed statement and endorsement	91.509(e)(9)

EPA may enter and inspect facilities where PLT testing is conducted to ensure that engines are tested according to EPA regulations (91.505). Manufacturers are required to furnish records and provide reasonable assistance to EPA officials during such audits.

**Table H  
PLT Program Recordkeeping Requirements**

<b>Information Description</b>	<b>Basis for Requirement</b>
Description of test equipment	91.504(a)(1)
Records pertaining to each test:	91.504(a)(2)
Date, time, and location of each test	91.504(a)(2)(i)
Number of hours of service accumulation before and after testing	91.504(a)(2)(ii)
Names of supervisory personnel involved	91.504(a)(2)(iii)
Record and description of adjustments, repair, preparation or modification performed	91.504(a)(2)(iv)
If applicable, dates of shipping and the date the engine was received at the test facility	91.504(a)(2)(v)
Complete records of all emission tests	91.504(a)(2)(vi)
Brief descriptions of any significant events	91.504(a)(2)(vii)

\* Note: Per 91.504(b), manufacturers are required to maintain records for one year.

#### D. In-use Testing Program

Under the In-use Testing Program, manufacturers must test, each year, a sample of used engines from one of their certified engine families previously chosen by EPA. EPA may request a manufacturer to test up to 25 percent of the number of engines families certified by each manufacturer. Engine manufacturers must test a minimum of four engines per engine family provided that no engine fails. EPA allows a minimum of two engines to be tested if the manufacturer only makes 2,000 engines or less for that model year or if the engine family consists of 500 engines or less. If the engine family was certified using carry-over data and EPA has not order a recall for the previous family, the manufacturer can test only one engine. In-use testing regulations are found at Part 91, Subpart I.

For each failing engine, two more engines need to be tested until a total of ten engines is reached. If an engine family fails in-use testing, EPA may order the manufacturer to recall that engine family (91.804(e)). Recall regulations are covered under a different ICR.

Within three months after testing is completed, manufacturers must electronically submit all information generated from the in-use testing program (91.805(a)). For each engine tested, the following information is required:

**Table I**  
**In-use Testing Program**

<b>Information Description</b>	<b>Basis for Requirement</b>
Engine Family	91.805(a)(1), 91.805(a)(1)
Model	91.805(a)(2), 91.805(a)(2)
Engine Serial Number	91.805(a)(3), 91.805(a)(3)
Date of Manufacturer	91.805(a)(4)
Estimated hours of use	91.805(a)(5)
Date and time of each test attempted	91.805(a)(6)
Results (if any) of each test attempted	91.805(a)(7)
Results of all emission testing	91.805(a)(8)
Summary of all maintenance and/or adjustments performed	91.805(a)(9)
Summary of all modifications and/or repairs	91.805(a)(10)
Determinations of noncompliance	91.805(a)(11)

Manufacturers must maintain the following in-use testing records for eight years, with the exception of routine emission test data which can be maintained for only one year. Records can be kept on any format and in any media, provided they are promptly supplied to EPA upon request in English and in a well organized manner (91.121(c)).

**Table J**  
**In-use Testing Program Recordkeeping Requirements**

Information Description	Basis for Requirement
Documents generated during the procurement process	91.804(a)(2)
Documentation of all maintenance and adjustments	91.804(b)
Routine emission test data	91.121(b)
Standard test documentation	91.121(b)

(ii) Evaporative Emission Requirements – Engine and Fuel/Hose Component Manufacturers

Engine manufacturers must describe the fuel system components in the same certification application in which they document their compliance with exhaust emission standards. Evaporative requirements begin in 2009 with hose permeation requirements for OB/PWC (including phase in for under-cowl OB hose beginning with 30% in 2010), SDD/I and portable gas cans, see Table 2. In 2010 requirements begin for diurnal on PWC and portable gas cans, 2011 with hose permeation-primer bulbs, diurnal (for OB, SD/I), tank permeation for PWC and portable gas cans, 2012 tank permeation for OB and SD/I.

The component manufacturers may certify with measured emission levels showing that the components meet the emission standard. Requirements for certification are based on the exhaust certificate and are listed in 1065.205. The requirements are also discussed specifically to evaporative requirements in the Preamble of the rule “Control of Emissions from Nonroad Spark-Ignition Engines and Equipment” rulemaking of 2008 under VI.F(2) and F(4). The section states that the established provisions for implementing exhaust emission standards apply similarly for evaporative emission standards, however because the control technologies are very different, there are some differences. The differences include no maintenance, no requirement for generating deterioration factors, no PLT or in-use product. The rule does require manufacturers to setup their own quality plan for testing their products to ensure compliance.

(iii) Respondent Activities

The following are a manufacturer's activities associated with certifying a marine SI engine family. Averaging, Banking, & Trading is a required part of the certification process for spark-ignition marine engines.

- Review regulations and guidance;
- Develop engine family groups;
- Test engines for compliance;
- Develop deterioration factors;
- Gather production volume projections for all engine families;
- Analyze data to determine compliance;
- Compile all information, prepare and submit the application;
- Prepare, support & submit running changes;
- Collect actual production volumes and engine sale;
- Develop and submit end-of-year reports;
- Develop and submit final reports; and
- Maintain records, and submit them upon request.

Activities manufacturers need to carry out to comply with PLT requirements are:

- Gather/maintain production data (customary business practice);
- Read instructions and regulations;
- Train personnel;
- Project testing needs and plan schedules;
- Select engines to be tested;
- Inspect engines to be tested;
- Test engines;
- Enter data and analyze it;
- Prepare and submit reports;
- Keep records; and
- Other activities such as test equipment calibration, engine repair if needed, etc.

Activities associated with in-use testing are:

- Read instructions and regulations;
- Train personnel;
- Procure engines;
- Maintain engines;
- Test engines;
- Enter data and analyze it;
- Prepare and submit reports; and
- Keep records.

Activities associated with evaporative emission compliance are (assuming use certified product):

- Read instructions and regulations;

- Train personnel;
- Compile all information, prepare and submit the application along with the engine certificate;
- Maintain records, and submit them upon request.

Activities for fuel tank or hose manufacturer/equipment manufacturer making own evaporative products:

- Read instructions and regulations;
- Train personnel;
- Compile all information, prepare and submit the application;
- Develop and submit final reports; and
- Maintain records, and submit them upon request.
- Fuel tank permeation standard allows the use of FEL's

## 5. **The Information Collected--EPA Activities, Collection Methodology, and Information Management**

### 5(a) EPA Activities

The following are EPA's activities associated with certifying an engine family:

- Answer respondent questions;
- Review the regulations and guidance;
- Enter applications into database;
- Review applications;
- Review running changes & corrections;
- Issue appropriate certificates;
- Store data;
- Answer questions from the public;
- Review end-of-year report;
- Review final report; and
- Enter data from reports into database.

Activities related to AB&T involve:

- Reviewing requirements and providing guidance;
- Entering the data into the database;
- Receiving reports, reviewing calculations, making sure that the information submitted by manufacturers is accurate and complete;
- Audit manufacturers' reports and files to make sure all participants have zero or positive credit balances at the end of the year; and
- Keep records.

To ensure, through the PLT Program, that mass-produced marine SI engines do comply with emission standards, EPA must:

- Answer questions from manufacturers and the public;
- Review submissions for format and completeness;
- Input data into the database;
- Analyze and compare results to standards and FELs;
- Request and review additional information as needed;
- Take any appropriate enforcement actions;
- Keep records of the information submitted and EPA's actions and determinations;
- Periodically perform maintenance or make enhancements to the database;
- Make data from completed test programs available to the public, including posting it on the Internet; and
- Analyze and manage requests for confidentiality.

EPA performs the following activities associated with the Marine in-use test program:

- Evaluate engine technologies and/or plan to target in-use testing requirements to address emission durability concerns;
- Review certification information and prior in-use data (if applicable) to identify engines for testing;
- Inform manufacturers of the need to conduct in-use testing on a family and / or configurations;
- Answer manufacturers' questions;
- Review submissions to verify they are in the proper format and complete, in accordance with 91.805;
- Enter results (which are submitted in electronic format) into an information management system (IMS) which links test data and other relevant information to certification information for tracking engine family emission performance;
- Analyze, compare and file information submitted by manufacturers in their Quarterly Report on Emissions Testing report;
- Periodically EPA may request additional information or documentation regarding an engines procurement, use or maintenance. This will typically only be as spot checks to verify that manufacturers are complying with regulations. This information will be filed and retained by EPA;
- Periodically EPA may perform maintenance or make enhancements to the IMS described above; and

- Analyze requests for confidentiality.

To ensure that mass-produced fuel tanks and hoses do comply with evaporative standards, EPA must do the following with such manufacturers, or equipment manufacturers choosing to produce own evaporative product:

- Answer questions from manufacturers and the public;
- Review submissions for format and completeness;
- Input data into the database;
- Analyze and compare results to standards and FELs (permeation standards for fuel tanks only);
- Request and review additional information as needed;
- Take any appropriate enforcement actions;
- Keep records of the information submitted and EPA's actions and determinations;
- Periodically perform maintenance or make enhancements to the database;
- Make data from completed test programs available to the public, including posting it on the Internet; and
- Analyze and manage requests for confidentiality.

#### 5(b) Collection Methodology and Management

EPA currently makes extensive use of electronic media in gathering and evaluating information from small SI engine manufacturers. Manufacturers submit Certification, AB&T, PLT and In-use data in electronic formats. EPA is actually developing new Excel-based templates for manufacturers to submit their compliance reports.

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 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

Currently, four of the 12 marine SI engine manufacturers who submit applications for certification may be small entities. However, there are a number of flexibilities that reduce the burden on smaller volume OB/PWC engine manufacturers, and smaller volume families, such as: corporate average standard, nine-year phase-in, multi-year averaging, use of surrogate data for

certification, and exemption from production line testing and in-use testing, emission defect reporting, reporting of voluntary emission recalls, and warranty provisions.

Exhaust Emissions: We have included provisions to ease the compliance burden on small businesses. Small marine engine manufacturers will not have to comply with the SD/I exhaust standards until 2011, which provides 1-2 additional years of lead time, depending on engine type. Further, small manufacturers will not need to comply to the SD/I exhaust standards for high-performance engines until 2013. This provides three additional years of lead time. Small engine manufacturers will be able to use an assigned deterioration factor which saves them the expense of service accumulation and additional testing to measure deteriorated emission levels at the end of the regulatory useful life. Small engine manufacturers will also be exempt from production line testing and can use a broader definition of "engine family" such that they have a smaller number of engine families for certification.

Evaporative Emissions: Fuel tank manufacturers are largely small businesses. We have designed the evaporative emission control program to address the needs of these businesses including longer lead times for implementation of the fuel tank permeation standards. We have also included certification flexibility such as expanded emission family definitions, design-based certification options, limited compliance demonstration, and hardship provisions.

The information being requested from spark-ignition marine engine manufacturers is considered to be the minimum needed to effectively conduct and maintain integrity of the required certification and enforcement programs. Further measures to simplify reporting for small businesses do not appear prudent or necessary.

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, and a certificate of conformity must be obtained each year before the start of production (or importation) of each engine family. Taking these two considerations into account, manufacturers are encouraged to submit their applications at their earliest convenience, see Table 3. Running change and correction applications are submitted by manufacturers as the need occurs.

Table 3  
Principal Reporting Nonroad SI Start Dates

Category	Principal Reporting Start Date	Engine or Equipment Manufacturer
Marine Evaporative	2008	Engine/Evap Component Mfr/Vessel
Marine Exhaust	2009	Engine

PLT data is submitted quarterly, as manufacturers update their internal records. In-use testing information is submitted once per model year within 90 days after testing is complete.

## **6. Estimating the Burden and Cost of the Collection**

### **6(a) Estimating Respondent Burden**

#### **Marine SI Exhaust**

The burden for certification testing is generally based on conducting durability and emission tests for each engine family, then using that test data for several years. The estimated cost for full certification testing, including durability demonstration testing, is \$90,000 per engine family (combining labor and O&M expenses). The manufacturer's application for certification involves an extensive effort the first year, followed by relatively little effort in subsequent years. We estimate that manufacturers will conduct new certification testing every five years; the costs have been estimated on an annual average basis.

In addition to testing, manufacturers must prepare the application for certification and maintain appropriate records. We have estimated the cost of these combined activities, which include engineering and clerical effort, to be \$10,000 per engine family per certification cycle. As with the testing costs, we are presenting annual average costs.

Manufacturers of OB/PWC are also expected to conduct testing on their engines after they have been placed into service to confirm that they continue to meet emission standards. Testing selected families using field-testing equipment instead of full laboratory equipment allows for substantial data collection for much lower costs than would be incurred by pulling engines out and testing them on a dynamometer. We base the estimated costs on testing 25 percent of engine families, at approximately \$125,000 per family. This allows for testing multiple engines in each family.

These burden estimates apply equally whether the manufacturer conducts the required activities, or if the manufacturer hires a third party for some of these activities.

#### **Evaporative**

For the first year, we estimate fuel tank durability and certification testing to cost about \$15,000 per fuel tank manufacturer with the expectation that the manufacturers will use the same materials and permeation control strategy for all of their fuel tanks to reduce costs. Low permeation fuel lines are largely an established technology. We include a cost of \$1,000 per hose manufacturer to perform certification permeation testing on fuel lines. For the running loss, diffusion, and diurnal standards, we expect manufacturers to use the design-based certification options rather than testing. In addition, we estimate about \$10,000 for engineering and clerical work for the equipment manufacturers.

6(b) Estimating Respondent Costs

(i) Estimating Labor Costs

To estimate labor costs, EPA used the Bureau of Labor Statistics' National Industry-specific Occupational Wage Estimates (May 2006) for the Engine and Turbines Industry (SIC 351) and increased by a factor of 2.1 to account for benefits and overhead (NAICS 336000 - Transportation Equipment Manufacturing). The specific rates used are listed in Table 4 below. Rates are measured on a mean hourly basis.

**Table 4**  
**Labor Costs Estimates**

<b>Occupation</b>	<b>SOC Code Number</b>	<b>Mean Hourly Rate (BLS)</b>	<b>110%</b>
Mechanical Engineers	17-2141	\$34.49	\$72.43
Engineering Managers	11-9041	\$52.52	\$110.29
Lawyers	23-1011	\$54.65	\$114.77
Secretaries, Except Legal, Medical and Executive	43-6014	\$14.25	\$29.93
Mechanical Engineering Technicians	17-3027	\$24.11	\$50.63
Engine and Other Machine Assemblers	51-2031	\$19.53	\$41.01
Maintenance Workers, Machinery	49-9043	\$18.72	\$39.31
Truck Drivers, Heavy and Tractor-Trailer	53-3032	\$20.41	\$42.86
Motorboat Operator	53-3099	\$18.81	\$39.50

(ii) Estimating Capital and Operations and Maintenance Costs

Operation and Maintenance costs (O&M Costs) associated with this information collection include diskettes, photocopying, postage and other shipping expenses, calls, maintenance of emission laboratories (for those manufacturers that own testing cells), and testing costs (for those manufacturers that contract testing facilities). Diskettes are used by manufacturers to submit their electronic applications and to keep records.

Capital costs (associated with building emission testing facilities) were incurred by manufacturers when the marine SI engine industry (with the exception of SD/I mfrs) became regulated for the first time. Therefore, these related capital costs are excluded from this ICR. EPA does not expect any new marine SI engine manufacturers to enter the US market in the next three years and build its own emission testing laboratories. Although there are no existing federal requirements for SD/I exhaust emissions, many of the SD/I manufacturers are performing

exhaust emission testing to certify in California. For smaller manufacturers that do not certify in California, we anticipate that they would contract with outside laboratories for their exhaust emission testing rather than building test facilities on site. Other emission testing expenses are included as O&M costs as explained above.

(iii) Capital/Start

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

(iv) Annualizing capital costs

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

6(c) Estimating Agency Burden

The agency estimated burden varies greatly based on the number of vessel manufacturers that may or may not certify. The minimum burden (assuming no vessel manufacturers certify) is approximately 18,135 hours (or \$1,281,943 per year) to a maximum of 56,203 hours (or \$3,955,802 million per year) to oversee the requirements of the final rule, as described in Section 6(c). While we have accounted for 300 marine equipment/vessel manufacturers to certify, they may not be required to unless they are developing their own evaporative system, or averaging their evaporative emissions, therefore the number of actual certifications, and hence costs, are likely to be less.

Table 5, below, summarizes EPA's labor costs associated with this information collection. These costs are based on 2007 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 5  
Agency Labor Costs**

<b>Occupation</b>	<b>Hourly Rate</b>	<b>160%</b>
Engineer (GS-13/6)	\$44.39	\$71.02
Lawyers (GS-14/5)	\$50.95	\$81.52
Managers (GS-15)	\$52.88	\$84.61
SES-1	\$89.42	\$143.08

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 a \$2,151.83 administrative fee to Senior Services America, Inc., the organization from which our SEE Employees come. This data was obtained from HDNEG's

financial officer. To calculate how much of that fee corresponds to this collection, the fee was divided by the number of hours the senior spends in this program and added to the hourly salary rate for a total of \$24.38.

Our Engine Programs Compliance Group administers emission certification programs. This group has approximately 17 full-time employees. We project 120 hours per week of staff time (at \$70 per hour, loaded) to manage engine compliance programs related to new emission standards. This comes to approximately 6240 hours or \$436,800 per year to oversee the requirements of the final rule.

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

Several additional groups will be included in this ICR. Manufacturers of sterndrive/inboard engines will be regulated for the first time along with fuel tank and fuel hose manufacturers. Vessel/equipment manufacturers may have to certify given certain circumstances of vessel manufacture.

In model year 2007, applicably regulated engine manufacturers submitted to EPA 111 certification applications from 12 marine SI engine manufacturers. The number of marine SI applications has decreased significantly since the last renewal. Most of the certification applications received (99 out of 111) were "carry-over" applications (see section 4(b) for details). Therefore, only 12 applications represented new engine families, an average of one new engine family per respondent. Thirty running changes are submitted on average by 6 manufacturers.

PLT requires manufacturers to test a sample of engines from each engine family. The size of the sample is determined by a formula found at 90.506. The maximum number of engines manufacturers need to test (per engine family per model year) is the lesser of 30 engines or one percent of the projected annual production [91.506(b)(8)]. However, according to PLT data submitted by manufacturers, an average of seven tests are conducted per engine family per model year. For many small families, though, the maximum testing burden is of just one test per model year (those with an annual projected production of less than 3,000). The burden for carry over engine families is less than that for new engine families.

The In-use Testing Program requires EPA to order testing of up to 25 percent of each manufacturer's total number of certified engine families. (For manufacturers with three or less engine families, one engine family can be selected, per 91.(a)(1).) In 2007, EPA ordered testing of 17 engine families from 9 manufacturers, for an average of two engine families per respondent. A minimum of four in-use engines need to be tested, provided no engine fails.

**6 (e) Bottom-Line Burden Hours and Cost Tables**

**(i) Respondent Tally**

Table 6  
Total Estimated Respondent Burden and Cost Summary for the Engine Manufacturer

Program	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
Cert & AB&T	38*	5	14,906	973,739	0	452,296	1,440,940
PLT	38	4	5,840	347,564	0	4,606,910	4,960,314
In-Use Testing	11	8	39,894	1,789,281	0	1,403,102	3,232,277
Total	38	17	60,640	3,110,584	0	6,462,307	9,633,531

\*high performance SD/I marine have until 2013 MY to certify, however some may certify early, so including them here.

Table 7  
Total Estimated Respondent Burden and Cost Summary for the Hose/Tank/Vessel Manufacturers (Cert & AB&T only)

Program	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
Tank/Hose	300	1	2,550	174,249	0	11,012	187,811
Vessel	43	1	7,470	556,201	0	109,220	672,891
Total	343	1	10,020	730,450	0	120,232	860,702

\*This analysis assumes only a small portion of vessel manufacturers will certify for either making their own fuel tank or averaging evaporative emissions.

**Table 8**  
**Summary of Bottom-line Burden Hours and Cost Per Year**

Affected Entities	Number of Respondents	Number of Activities	Industry Totals					Average per Respondent	
			Annualized Capital Costs	Total Labor per Year	Total O&M Costs per Year	Total Hours per Year	Total Costs per Year	Total Hours per Year	Total Costs per Year
Marine SI engine manufacturers	38	17	\$0	\$3,110,584	\$6,462,307	60,640	\$9,633,531	1,596	253,514
Marine SI evaporative	343	1	\$0	\$730,450	\$120,232	10,020	\$860,702	29	2509
<b>Total</b>	418	Varies	\$0	3,841,034	<b>\$6,582,540</b>	<b>70,660</b>	\$10,494,233	n/a*	n/a*

\*Engine manufacturers and Evap control manufacturers are typically different entities.

**(ii) Agency Tally**

The agency estimated burden varies greatly based on the number of vessel manufacturers that may or may not certify. The minimum burden (assuming no vessel manufacturers certify) is approximately 18,135 hours (or \$1.26 million per year), see Table 9, to a maximum of 56,203 hours (or \$3.96 million per year), see Table 10, to oversee the requirements of the final rule, as described in Section 6(c). While we have accounted for 300 marine equipment/vessel manufacturers to certify, they may not be required to unless they are developing their own evaporative system, therefore the number of actual certifications, and hence costs, may be less.

**Table 9**  
**Total Estimated Agency Burden and Cost Summary - Minimum**

Program	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
Cert & AB&T	38*	5	14,337	991,016	0	18,711	1,009,727
PLT	38	4	3,477	247,975	0	295	248,270
In-Use Testing	10	8	321	23,781	0	165	23,946
<b>Total</b>	38	17	18,135	1,262,772	0	19,171	1,281,943

Table 10  
Total Estimated Agency Burden and Cost Summary – Maximum\*

Program	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
Cert & AB&T	388*	5	52,405	3,597,028	0	86,558	3,683,586
PLT	388	4	3,477	247,975	0	295	248,270
In-Use Testing	10	8	321	23,781	0	165	23,946
Total	388	17	56,203	3,868,784	0	87,018	3,955,802

\* 300 Vessel manufacturers were included which may either make their own fuel tanks or use AB&T to average evaporative emissions.

6(f) Reasons for change in burden

There is an increase in total burden from the previous ICR (from 48,025 to 70,660 hours) due to an increase in the number of certifiers for this ICR. The Sterndrive/Inboard engine manufacturers are certifying for the first time as well as fuel tank and hose manufacturers. Marine vessel manufacturers may or may not certify based on whether they use all certified components or they make their own. Responses for marine engine manufacturers are estimated to be 38 respondents for and for vessel/evaporative producers are estimated to be 343 respondents.

6(g) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is about 91 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 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.

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-2007-0904, which is available for online viewing at [www.regulations.gov](http://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](http://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-2007-0904 and OMB Control Number 2060-0321 in any correspondence.