

<p>CERTIFICATION APPLICATION</p>	<p>Include all information under The standard setting part (typically section 205 in the applicable regulation).</p>
	<p>Amend Cert App</p>
	<p>Prepare Maintenance instructions</p>
	<p>Prepare label under the regulations</p>
<p>TESTING</p>	
<p><i>Cert Testing</i></p>	<p>Cert testing should include both certification test to meet standard and durability test for deterioration factor testing, generally at least half the useful life of the engine family.</p>
<p><i>Production-Line Testing</i></p>	<p>Many, but not all, manufacturers must also test a minimum number of production engines per quarter throughout the model year, run calculations, and report production-line testing (PLT) reports on a quarterly and final report basis.</p>
<p><i>In_Use Testing</i></p>	<p>Some sectors within GECC must conduct in-use testing of engines in the field. These reports must be generated over a longer period of time (3-years, for example) to demonstrate continued compliance.</p>
<p><i>Selective Enforcement Audits</i></p>	<p>The EPA may require a manufacturer to conduct a selective enforcement audit of their production of an engine family. Generally, up to 30-engines (or vehicles) must be selected at random and sequestered until the completion of this test audit.</p>

REPORTING AND RECORDKEEPING	
<i>End-of-year</i>	All manufactures must submit a report representing their U.S. directed production for the previous model year for all engine families.
<i>ABT Report</i>	As an alternative to traditional certification programs, some manufacturers may certify multiple engine families in an ABT (averaging, banking, and trading) group, which is averaged across all families and quantities, and certified to one standard. These reports must be verified at the end of the model year on the basis of actual sales.
<i>PLT Reporting</i>	Along with the certification testing above, manufacturers subject to PLT testing must provide the EPA quarterly reports of their PLT testing progress and a final report 45-days after the end of the model year to demonstrate compliance with the finished products. This should not be confused with the end-of-year report required for all U.S. directed production, whether a PLT family or not.
<i>Final and/or end-of-year report</i>	Not to be confused with the Production report, though one may serve as the other, all manufacturers must provide a final report on all sales activities after the end of the model year.
<i>Maintenance of Records</i>	Several sections of the regulations, certification testing, PLT testing, In-use testing, engine family information, require manufacturers to maintain these records for a designated number of years following the end of the model year. The EPA may request this information at any time, whether or not you previously disclosed this information to the Agency.

Additional information includes disclosing AECD and adjustable parameters, explaining each in detail. Some manufacturers (Marine) must demonstrate that they also meet Not-to-exceed (NTE) standards within their certification testing. Other manufacturers (Large SI) must conduct an in-situ test as well as a certification test (sometimes also called an in-use test), where the engine is inserted into a piece of equipment and tested in application prior to certification and introduction into commerce (not to be confused in in-use compliance testing).

Generally, between 25% and 35% of manufacturers use data from previous certification years to certify for the current model year. This is a flexibility that reduces the amount of testing required annually for all manufacturers, provided no changes have occurred in the emissions characteristics of the engine family. However, the EPA may request new testing where information may seem old or out of date.

Computatic

Nonroad Spark Ignition Engines

Recreational Vehicles

Heavy Duty Highway Vehicles/Evapor

Total

GECC-related Defec

Industry
Small SI engines
Marine SI engines
Large SI engines
Evap Components/Equipment
Highway Motorcycle
Recreational - ATV
Recreational - Offroad Motorcy
Recreational - Snowmobile
Heavy-duty SI engines
Heavy-duty Evap
Total for all GECC Industries
Total for Nonroad SI

Total New NRSI Cert Testing
(Mfr)

In-House or Contractor
283

64
75
43
8
5
114

592.64

In-House or Contractor Cert
283
64
75
43
8
5
114
Manf.
29
10
30
3
4

	2
	40

<p>Number of all NRSI manufacturers and certificates issued (three-year period and average)</p>	
<p>Small SI: Small nonroad gasoline powered equipment, such as lawnmowers, string trimmers, chain saws, small compressors, pumps, utility vehicles < 25 mph, snow blowers, rammers, floor cleaners</p>	Manufacturers
	Certificates
<p>Marine SI: e.g. Gasoline boats and personal watercraft</p>	Manufacturers
	Certificates
<p>Large SI: Large nonroad gasoline powered equipment, such as forklifts, compressors, generators, and stationary equipment</p>	Manufacturers
	Certificates
<p>Evaporative components (manufacturers certifying their own equipment under the standard setting part)</p>	Manufacturers
	Certificates
<p>Recreational Vehicles (All-terrain vehicles / utility vehicles/Snowmobiles/Off-Highway motorcycles)</p>	Manufacturers
	Total Certificates
<p>Evaporative components</p>	Manufacturers
	Certificates
	Evap Manufacturers
	Evap Certificates
	Manufacturers
	Certificates

ts/Recalls for 2019/2020

Defect Reports	
2019	2020
2	1
10	0
1	1
1	1
3	8
4	2
0	0
3	1
3	7
0	1
27	22
24	14

178

Contractor	
	159 Small SI

	36	Large SI
	42	Rec Veh Test
	24	Marine SI Test
	4	Heavy Duty SI
	3	Heavy Duty Si Evap Components
	64	Components (per manufacturer)

331

Contractor Cert		
	159	Small SI
	36	Large SI
	42	Rec Veh Test
	24	Marine SI Test
	5	Heavy Duty SI
	3	Heavy Duty Si Evap Components
	64	Components (per manufacturer)
Contractor Manf		
	16	Small SI
	6	Large SI
	17	Rec Veh Test
	3	Marine SI Test
	2	Heavy Duty SI

	Heavy Duty Si Evap Components
1	Components (per manufacturer)
22	

MY 2017	MY 2018	MY 2019	MY 2020	Average Number of manufacturers and certificates	Carryover families	PLT
107	105	103	100	104		59
972	1006	1076	993	1012	728	567
23	22	19 (13)	21 (11)	21	21	9
178	175	163 (27)	163 (59)	170	127	80
37	36	35	36	36		21
226	231	220	244	230	166	60
137	140	145	143	141	40	0
396	416	415	408	409	294	0
					0	6
109	111	100	107	107	0	
281	270	254	262	267	192	27
15	14	13	10	13		0
36	28	29	22	29	21	0
7	9	8	7	8		0
16	15	13	23	17	12	0
				430		95
				2133	1601	734

()=New certification Data

Recall Reports	
2019	2020
0	0
0	0
2	0
1	0
3	2
2	1
0	0
0	0
1	3
0	0
9	6
6	4

Own
125

42

Small SI		
MY (New)	# of Mfr's	
2010	1	
2011	71	
2012	83	
2013	52	
2014	60	
2015	54	
2016	55	
2017	53	
2018	53	
2019	55	
2020	64	
2021	38	
Average Defect and Recall		
19	5	
Marine MY (New)		# of Mfr's
2011	8	
2012	14	
2013	13	
2014	16	
2015	16	

28	4
33	30
19	3
4	4
2	2
50	39

261 593

Own Cert		
125	0	29
28	0	4
33	0	30
19	0	3
4	0	4
2	0	2
50	0	40
Own Manf.		
13		
4		
13		
2		
2		

LSI

HDSI

2016	7
2017	13
2018	8
2019	11
2020	13
2021	8
MY	# of Mfr's
2011	7
2012	9
2013	12
2014	15
2015	17
2016	16
2017	15
2018	8
2019	14
2020	13
2021	11
MY	# of Mfr's
2015	1
2016	10

1		
17		

2017	14
2018	7
2019	5
2020	8
2021	3

Rec Vehicle

2019

Mfr

ATVA-MEET EPA & ARB ATV Definition	17
ATVB & UTV - EPA only	11
Utility Vehicle - EPA Only ATVB-MEETING EPA ATV Definition	12
All Terrain Vehicle	13
Off-Road Motorcycle	14
ATVB & ENGINE - EPA only	1
Off-Road Utility Vehicle	0
Engine - EPA Only	0

2020

Mfr

ATVA-MEET EPA & ARB ATV Definition	8
ATVB & UTV - EPA only	10
Utility Vehicle - EPA Only	8

ATVB-meeting EPA ATV Definition	22
All Terrain Vehicle	11
Off-Road Motorcycle	15
ATVB & ENGINE - EPA only	0
Off-Road Utility Vehicle	0
Engine - EPA Only	0

		NRSI and Evaporative Certificates (Part 1060 only certifications)	
ABT			
	14	Non-handheld	182
			349
		Handheld	63
			77
	7		
		Vessel Cert	2
			3
		Marine SI diurnal	20
			32
		Large SI	0
			0
	2		
	23	Total	112

New		Carr	
# of EF's		MY (Carryover)	# of Mfr's
1			
300			
296			
187			
181			
169			
186			
150			
207			
350		60	48
459		405	36
108			
# of EF's		MY (Carryover)	# of Mfr's
13			
26			
44			
22			
35			

16			
27			
26			
27	12		8
59	43		8
10			
# of EF's		Carryover	# Mfr
10			
28			
26			
41			
29			
31			
36			
23			
21	14		21
31	26		23
16			
# of EF's		Carryover	# of Mfr's
2			
22			

25			
11			
9		7	8
11		10	2
4			

		Total	Carry Over
EF	Mfr's	EF's	Mfr
24	86	76	1
6			1
8			-4
12			8
14			6
12			3
0			-1
0			0
0			0
EF			
14			9
3			1
5			0

18

6

11

13

9

4

0

0

0

0

0

0

In-use

New test Efs

4.96

283

283.29

7

461

11

43

566.5

672

64

114

0

0

75

8

5

592.64

yover

of EF's

726

42

534

630

of EF's

136
104
EF
199
213
of EF's

8

120

22

206

20
11

5

16

2019

EF

Carryover Total
31
16

Mfr

14

178

18

12

8

8

62

26

31

19

30

17

0

0

0

0

0

0

0

2020

Mfr

45

17

20

11

13

8

58

28

31

24

35

19

0

0

0

0

0

0

EF

55

100

254

22

16

74

45

42

0

0

0

EF

59

107

262

23

18

76

42

44

0

0

0

Each Sector should compile the below chart of the data submitted :

Table 7

Respondent Burden Table

Program	Number of Respond.	Number of Activities/per Respondent	Total Labor Hours Per Year	Total Labor Cost Per Year
Certification Application and Testing	430	4.91	591,103	\$ 52,822,946.64
Totals:			591,103	\$ 52,822,946.64
Preparing and Submitting Annual Production Report	430	1	6,450	\$ 631,721.60
PLT Reporting and Record Keeping	95	8	153,406	\$ 13,606,855.30
ABT Reporting	23	1	1,495	\$ 153,584.80
In-Use Testing and Reporting	7	2	2,154	\$ 163,153.14
SEA Testing and Reporting	2	1	344	\$ 31,333.02
Defect Reporting (EDIR)	19	1	266	\$ 28,268.77
Recall Reporting (VERR)	5	4	480	\$ 43,116.60
Final (Year-End and End-Of-Model Year) Reporting	430	1	3,440	\$ 354,578.00
Reporting and Recordkeeping Totals	430		164,595	\$ 14,658,033.23

8

(277,911)
8.00

and the reporting required.

ally

Total Annual Capital Costs	Total Annual O&M Costs	Total Costs	Total Responses
-	\$ 26,947,438.89	\$ 82,000,580	2,113.00
-	\$ 26,947,438.89	\$ 82,000,580	-
	\$ 72,240.00	\$ 703,962	430.00
	\$ 292,405.86	\$ 15,866,075	734.00
	\$ 3,864.00	\$ 157,449	23.00
	\$ 21,545.69	\$ 196,980	10.99
	\$ 6,155.91	\$ 37,489	2.00
	\$ 3,192.00	\$ 31,461	19.00
	\$ 840.00	\$ 46,477	20.00
	\$ 72,240.00	\$ 426,818	430.00
	\$ 400,243.47	\$ 17,039,892	1,668.99
			5450.98
			12.7
		\$ 99,040,472	

Information Collection Activity	Engineer/ 94.86	Manager/ 152.31	Legal (if applicable)/ 180.08	Technician/ 66.80
Review of regulations and guidance documents	18.0	9.0	10.0	4.0
Developing eng families groups	15.0	3.0	1.0	0.0
Gathering durability data	12.0	5.0	0.0	38.0
Testing/Gathering emission or evaporative data on test engines	30.0	14.0	0.0	22.0
Laboratory maintenance(1)	200.0	150.0	0.0	400.0
Cert, Durability & Evap Testing (annualized)(1)				
Small SI	10.0	4.0	1.0	20.0
Large SI	10.0	4.0	1.0	60.0
Rec Veh Test	50.0	4.0	0.0	80.0
Marine SI Test	10.0	4.0	1.0	20.0
Heavy Duty SI	10.0	4.0	1.0	20.0
Heavy Duty SI Evap Components	10.0	4.0	1.0	20.0
Components (per manufacturer)	10.0	4.0	1.0	20.0
Contracted Cert, Durability & Evap Testing (annualized)(1)				
Small SI				
Large SI				
Rec Veh Test				
Marine SI Test				
Heavy Duty SI				
Heavy Duty SI Evap Components				
Components (per manufacturer)				
Analyze data to determine compliance	6.0	4.0	1.0	0.0
Preparing and submitting new certification application	2.0	0.5	1.0	0.0
Preparing and submitting "carry over" applications	1.0	0.5	0.0	0.0
Paying Certification Fee	0.5	0.5	0.0	0.0
Certification Fee (3)				
Components	0.0	0.0	0.0	0.0
All Other SI Engines	0.0	0.0	0.0	0.0
Post Bond	1.0	1.0	0.5	0.0
Apply for Bond Waivers	2.0	0.5	0.5	0.0
Preparing and supporting running changes	3.0	2.0	1.0	3.0
Store, file and maintain records	3.0	1.0	1.0	0.0
Preparing and Submitting Annual Production Report	8.0	2.0	1.0	2.0

PLT Reporting and Record Keeping	101.0	8.0	11.0	80.0
ABT Reporting	40.0	10.0	5.0	0.0
In-Use Testing and Reporting	95.0	4.0	4.0	11.0
SEA Testing and Reporting	102.0	13.0	4.0	41.0
Defect Reporting (EDIR)	8.0	3.0	1.0	0.0
Recall Reporting (VERR)	8	3	1	10
Final (Year-End and End-Of-Model Year) Reporting	4	1	1	1
Total per respondent	411.5	221	23	709
Total for the industry	N/A	N/A	N/A	N/A

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

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

White=Certification
Gray=Reporting and Recordkeeping
Manager/ 152.31
Engineer/ 94.86
Technician/ 66.80
Administrative/ 45.97
Legal (if applicable)/ 180.08

Contract expenditures	
Small SI	\$5,666.67
Large SI	\$11,836.67
Rec Veh Test	\$7,333.33
Marine SI Test	\$15,000.00
Heavy Duty SI	\$15,000.00
Heavy Duty Si Components	\$333.33
Components (per manufacturer)	\$333.33

Table 2 - Annual Respondent Burden and Cost for SI Engine Certification

Hours and Cost per Application						
Transport \$38.58/hr	Administrative/ 45.97	Respondents hr/yr	Labor	Cost/yr	Capital Startup Cost	O&M Cost, Annualized (1)
0.0	1.0	42		\$5,192.24	\$0.00	\$16.36
0.0	1.0	20		\$2,105.88	\$0.00	\$0.00
0.0	3.0	58		\$4,576.18	\$0.00	\$0.00
0.0	14.0	80		\$7,091.32	\$0.00	\$0.00
0.0	0.0	750		\$68,538.50	\$0.00	\$79,952.08
0.0	2.0	37		\$3,165.86	\$0.00	
	2.0	77		\$5,837.86		
0.0		134		\$10,696.24	\$0.00	
0.0	2.0	37		\$3,165.86	\$0.00	
	2.0	37		\$3,165.86	\$0.00	
	2.0	37		\$3,165.86	\$0.00	
0.0	2.0	37		\$3,165.86	\$0.00	
						Projected Contract rates per engine/vehicle
						\$5,666.67
						\$15,000.00
						\$7,333.33
						\$15,000.00
						\$15,000.00
						\$8,500.00
						\$8,500.00
0.0	1.0	12		\$1,404.45	\$0.00	\$0.00
0.0	1.0	5		\$491.93	\$0.00	\$6.00
0.0	2.0	4		\$262.96	\$0.00	\$3.00
0.0	0.5	3		\$146.57	\$0.00	\$1.00
0.0	0.0	0		\$0.00	\$0.00	\$397.00
0.0	0.0	0		\$0.00	\$0.00	\$563.00
0.0	1.0	4		\$383.18	\$0.00	\$20.00
0.0	1.0	4		\$401.89	\$0.00	\$2.00
0.0	2.0	11		\$1,061.62	\$0.00	\$6.00
0.0	7.0	12		\$938.76	\$0.00	\$6.00
0.0	2.0	15		\$1,469.12	0	\$168

	9.0	209	\$18,537.95		\$3,078
	10.0	65	\$6,677.60		\$168
	82.0	196	\$14,845.60		\$3,078
	12.0	172	\$15,666.51		\$3,078
	2.0	14	\$1,487.83		\$168
	2	24	\$2,155.83		\$168
0	1	8	\$824.60		\$168
0	48.5	1,414.5	\$ 126,428	0	varies
N/A	N/A	N/A	\$ 51,406,501	0	
			\$ 124,958.87	Total Certification Cost	\$ 27,789,394
					\$ 2,454,099

Total Hours and Cost						
Applications/ Respondent (2)	Number of Respondents/ Responses	Total hr/yr	Total Cost/yr	Applications/ Efs	Total O&M	
1.0	430	18,060	2,239,698	2133	\$7,034.80	
1.0	430	8,600	905,528		\$0.00	
6.0	289	99,992	7,889,334	1724	\$0.00	
5.0	430	170,640	15,125,786		\$0.00	
1.0	299	224,070	44,363,046		\$23,886,483.42	
					\$0.00	
9.8	13	4,612	1,100,953	125	\$0.00	
7.1	4	2,184	591,103	28	\$0.00	
2.5	13	4,404	592,517	33	\$0.00	
9.5	2	700	343,698	19	\$0.00	
2.6	2			4	\$0.00	
2.2	1			2	\$0.00	
2.9	17	1,863	587,469	50	\$0.00	
9.8	16			159	\$898,973.60	
6.0	6			36	\$541,548.00	
2.5	17			42	\$306,726.93	
8.0	3			24	\$361,200.00	
2.0	2			4	\$60,000.00	
2.2	1			3	\$22,324.40	
2.9	22			64	\$544,782.00	
2.9	52	1,804	211,131		\$0.00	
11.1	67	3,362	371,950	747	\$4,482.00	
3.8	363	4,851	368,614	1386	\$4,158.00	
5.3	430	6,837	336,312		\$2,279.00	
					\$0.00	
2.9	141	0	161,976		\$161,976.00	
6.0	289	0	970,612		\$970,612.00	
5.4	71	1,337	154,052		\$7,641.84	
1.0	20	80	8,078		\$40.00	
3.9	280	12,012	1,165,841		\$6,552.00	
1.0	430	5,160	406,247		\$2,580.00	
1.0	430	6,450	703,962		\$72,240.00	

7.7	95	153,406	15,866,075	734	\$2,259,220.00
1.0	23	1,495	157,449		\$3,864.00
1.6	7	2,154	196,980		\$33,826.74
1.0	2	344	37,489		\$6,155.91
1.0	19	266	31,461	19	\$3,192.00
4	5	480	46,477	5	\$3,360.00
1	430	3,440	426,818	261	\$72,240.00
varies	N/A	1,717.68	N/A		\$63,774.94
varies	52	738,603.0	\$ 95,360,655		\$30,243,492.65
		570,568.0	\$ 77,893,945.25		\$27,789,394.00
		168,035	\$ 221,768.97		\$2,454,098.65

Activities Tally		Total Labor Cost/yr			
430	430.00	\$2,232,663.20			
430	430.00	\$905,528.40			
1724	1724.00	\$7,889,334.32			
2133	2133.00	\$15,125,785.56	1.5388320289	1661	
298.76	298.76	\$20,476,562.26	0.65	1386.45	
Contract Test Labs	0.00				
			279.5		
125	124.65	\$394,616.85			
28	28.37	\$165,601.41			
33	32.86	\$351,516.95			
19	18.92	\$59,898.07			
4	4.05	\$12,821.73			
2	2.06	\$6,533.07			
50	50.36	\$159,426.38	\$44,642,096.60		
	0.00				
0	158.64	\$0.00			
0	36.10	\$0.00			
0	41.83	\$0.00			
0	24.08	\$0.00			
0	4.00	\$0.00			
0	2.63	\$0.00			
0	64.09	\$0.00			
150	150.33	\$211,131.43			
747	747.00	\$367,467.98			
1386	1386.00	\$364,455.63			
2279	2279.00	\$334,033.03			
0	0.00	\$0.00			
408	408.00	\$0.00			
1724	1724.00	\$0.00			
382	382.09	\$146,410.05			
20	20.00	\$8,037.70			
1092	1092.00	\$1,159,289.04			
430	430.00	\$403,666.80			
430	430.00	\$631,721.60			

734	734.00	\$13,606,855.30
23	23.00	\$153,584.80
10.99	10.99	\$163,153.14
2	2.00	\$31,333.02
19	19.00	\$28,268.77
20	20.00	\$43,116.60
430	430.00	\$354,578.00
	36.97	\$152,993.93
15,564		\$65,940,385.02
		\$50,774,779.85
47.45		

746.4625

261

32

289

734

\$77,937.37

Table 1

Occupation	SOC Code Number	Mean Hourly Rate (BLS)	Rate Increased by Factor of 2.1	
Mechanical Engineers	17-2141	(\$45.17)	(\$94.86)	94.857
Engineering Managers	Nov-41	(\$72.53)	(\$152.31)	152.313
Lawyers	23-1011	(\$85.75)	(\$180.08)	
Secretaries, Except Legal, Medical and Executive	43-6014	(\$21.89)	(\$45.97)	
Mechanical Engineering Technicians	17-3027	(\$31.81)	(\$66.80)	

Information Collection Activity	Engineer/ 94.86	Manager/ 152.31	Legal (if applicable)/ 180.08	Technician/ 66.80
Preparing and Submitting Annual Production Report	8		2	1 2
PLT Reporting and Record Keeping	101		8	11 80
ABT Reporting	40		10	5 0
In-Use Testing and Reporting	95		4	4 11
SEA Testing and Reporting	102		13	4 41
Defect Reporting (EDIR)	8		3	1 0
Recall Reporting (VERR)	8		3	1 10
Final (Year-End and End-Of-Model Year) Reporting	4		1	1 1
Total Rpt and RCK	366		44	28 145

Table 2 - Annual Respondent Burden and Cost for SI Engine and Evaporative Components

Hours and Cost per Application					
Information Collection Activity	Respondents hr/yr	Labor	Cost/yr	Capital Startup Cost	O&M Cost, Annualized (1)
Total per respondent	1326.9	\$	290.60	-	varies
Total for the industry	N/A	\$	124,958.87	-	\$ 27,789,394.00

Evaporative Components Composite	
In-House Testing	6533.07
Contract Testing	159426.38
	22324.40
	544782.00
Total	\$ 733,065.85

In-House and Contract	
1695.11	in-house
	contract
1695.14	in-house
	contract

1695.11 O&M 1695.14 O&M 28268.77
 \$ 3,465,956.08 \$ 15,012,611.23 43116.6

IC	1695.11	1695.14	Difference	Notes
In-House Lab testing	\$ 12,510,151.64	\$ 44,642,096.60	\$ (32,131,944.96)	
Contract testing	\$ 5,455,650.71	\$ 211,131.43	\$ 5,244,519.28	
O&M Total	\$ 3,465,956.08	\$ 15,012,611.23	\$ (11,546,655.15)	
Defect and Recall	\$ -	\$ 71,385.37	\$ (71,385.37)	
Evaporative Components	\$ 233,200.00	\$ 733,065.85	\$ (499,865.85)	
Total			\$ (39,005,332.05)	

Transport \$38.58/hr	Administrative/ 45.97	Respondents hr/yr	Labor	Cost/yr	Capital Startup Cost	O&M Cost, Annualized (1)
	0	2	15	1469.12	0	168
		9	209	18537.95		3077.9564032698
		10	65	6677.6		168
		82	196	14845.6		3077.9564032698
		12	172	15666.51		3077.9564032698
		2	14	1487.83		168
		2	24	2155.83		168
	0	1	8	824.6		168
	0	120	703	\$ 61,665.04	0	Varies

Operative Components Certification			
Total Hours and Cost			
Applications/ Respondent (2)	Number of Respondents	Total hr/yr	Total Cost/yr
varies	N/A	N/A	N/A
varies	430.00	570,568.00	\$ 50,774,779.85

act testing	
\$ 12,510,151.64	
\$ 5,455,650.71	\$ 17,965,802.35
\$ 44,642,096.60	
\$ 211,131.43	\$ 44,853,228.03

71385.37

Applications / Respondent (2)	Number of Respondents / Responses	Total hr/yr	Total	Applications Cost/yr / Efs	Total O&M	Total Responses	
1	430	6450		703961.6	72240	430	
7.72631579	95	153406		15866075.3	292405.858310627	734	
1	23	1495		157448.8	3864	23	
1.57	7	2154.04	196979.884871935		21545.6948228883	10.99	
1	2	344	37488.9328065395		6155.91280653951	2	
1	19	266		31460.77	3192	19	
4	5	480		46476.6	840	20	
4.96046512	430	17064		2117215.8	72240	2133	
Varies	1,011	181,659	\$ 85.17	19,157,107.69	2891 \$	472,483.47	3371.99

Total Labor Cost/yr

\$ 631,721.60

\$ 13,606,855.30

\$ 153,584.80

\$ 163,153.14

\$ 31,333.02

\$ 28,268.77

\$ 43,116.60

\$ 1,758,871.80

54 \$ 16,416,905.03

Small SI Re

			Hours	Cost Burden
Program	Number of Respond.	Number of responses (Total)	Manager/	152.31
Certification Application	104.00	1012.00	1.00	152.31
Cert Testing			4.00	609.25
Contract Testing				
Evap Testing (if applicable)				
PLT Testing			8.00	1218.48
In-use Testing				0.00
SEA Testing				0.00
Totals:				0.00
Reporting:				0.00
PLT reports			2.00	304.62
Sales production			1.00	152.31
ABT reports			2.00	304.62
Defect Reporting				0.00
VERR				0.00
Reporting Totals:				0.00

Recreational Vehic

			Hours	Cost Burden
Program	Number of Respond.		Manager	
Certification Application			0.5	76.155
Cert Testing			4	609.24
Contract Testing			4	609.24
Evap Testing (if applicable)				0
PLT Testing			2	304.62
In-use Testing				0
SEA Testing				0
Totals:				0
Reporting:				0
PLT reports			2	304.62
Sales production			2	304.62
ABT reports			1	152.31

Defect Reporting				0
VERR				0
Reporting Totals:				0

Large SI Re

			Hours	Cost Burden
Program	Number of Respond.		Manager	
Certification Application				
Cert Testing			4	
Contract Testing				
Evap Testing (if applicable)				
PLT Testing				
In-use Testing				
SEA Testing				
Totals:				
Reporting:				
PLT reports				
Sales production				
ABT reports				
Defect Reporting				
VERR				
Reporting Totals:				

Marine Re

			Hours	Cost Burden
Program	Number of Respond.		Manager	
Certification Application				
Cert Testing			4	
Contract Testing				
Evap Testing (if applicable)				
PLT Testing				
In-use Testing				
SEA Testing				
Totals:				
Reporting:				

PLT reports				
Sales production				
ABT reports				
Defect Reporting				
VERR				
Reporting Totals:				

Heavy Duty SI Respor

			Hours	Cost Burden
Program	Number of Respond.			
Certification Application				
Cert Testing				
Contract Testing				
Evap Testing (if applicable)				
PLT Testing				
In-use Testing				
SEA Testing				
Totals:				
Reporting:				
PLT reports				
Sales production				
ABT reports				
Defect Reporting				
VERR				
Reporting Totals:				

EVAP components Respc

			Hours	Cost Burden
Program	Number of Respond.			
Certification Application				
Cert Testing				
Contract Testing				
PLT Testing				
In-use Testing				
SEA Testing				
Totals:				

Reporting:				
PLT reports				
Sales production				
ABT reports				
Defect Reporting				
VERR				
Reporting Totals:				

Table 7

Respondent Burden Tally

Hours	Cost Burden	Hours	Cost Burden	Hours	Cost Burden	Hours	Cost Burden
Engineer/ 94.86		Technician/ 66.80		Administrative/ 45.97		Legal (if applicable)/ 180.08	
8.00	758.86	2.00	133.60	4.00	183.88	0.00	0.00
10.00	948.57	20.00	1336.02	2.00	91.94	1.00	180.08
40.00	3794.40	80.00	5344.00	8.00	367.76	4.00	720.32
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58.00	5501.88	102.00	6813.60	14.00	643.58	5.00	900.40
	0.00		0.00		0.00		0.00
8.00	758.88	2.00	133.60	2.00	91.94	1.00	180.08
1.00	94.86	1.00	66.80	1.00	45.97	1.00	180.08
8.00	758.88		0.00	2.00	91.94	1.00	180.08
	0.00		0.00		0.00		0.00
	0.00		0.00		0.00		0.00
	0.00		0.00		0.00		0.00

Table 7

Classes Respondent Burden Tally

Hours	Cost Burden	Hours	Cost Burden	Hours	Cost Burden	Hours	Cost Burden
Engineer		Technician		Administrative		Legal (if applicable)	
4	379	-	-	-	-	-	-
50	4,743	80	5,344				
50	4,743	80	5,344				
	-		-				
20	1,897	40	2,672	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
124	11,763	200	13,360	-	-	-	-
	-		-				
40	3,794	40	2,672				
5	474		-				
2	190		-				

Number of Activities/per Respondent	Operations and Maintenance Cost	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
-						
-						
-						
-						
-						

Number of Activities/per Respondent	Operations and Maintenance Cost	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
-						
-						
-						
-						
-						

Number of Activities/per Respondent	Operations and Maintenance Cost	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
-						
-						
-						
-						
-						

Number of Activities/per Respondent	Operations and Maintenance Cost	Total Hours Per Year	Total Labor Cost Per Year	Total Annual Capital Costs	Total Annual O&M Costs	Total Costs
-						
-						
-						
-						
-						

Hourly rate	Wage Multiplier (2.1)	Hourly rate	Wage Multiplier (2.1)	Hourly rate	Wage Multiplier (2.1)
Manager		Engineer		Technician	
72.53	152.31	45.17	94.86	31.81	66.80

Hourly rate	Wage Multiplier (2.1)	Hourly rate	Wage Multiplier (2.1)
Administrative		Legal (if applicable)	
21.89	45.97	85.75	180.08

Table 4 - Annual Respondent Burden and Cost - F

Hours and Cost per Engine Family					
Information Collection Activity	Respondents	hr/yr	Labor Cost/yr	Capital Startup Cost	O&M Cost(1)
Review of instructions and regulations		58	\$6,470.89	\$0.00	\$0.00
Training		9	\$825.68	\$0.00	\$40.00
Projecting testing needs and planning test schedules		13	\$1,241.74	\$0.00	\$20.00
Engine selection and transport		5	\$446.24	\$0.00	\$20.00
Engine inspection		7	\$495.66	\$0.00	\$0.00
Testing (In-house)		20	\$1,560.48	\$0.00	\$300.00
Data entry and analysis		9	\$804.85	\$0.00	\$30.00
Other tasks (test equipment calibration, engine repair, etc.)		64	\$4,387.44	\$0.00	\$100.00
Testing (Contract Out)					
Small SI					\$5,666.67
Large SI					\$11,836.67
Marine SI					\$15,000.00

Setting up contract		7	\$794.13	\$0.00	\$21.00
Preparing and submitting report		12	\$1,183.21	\$0.00	\$5.00
Store, file and maintain records		5	\$327.63	\$0.00	\$2.00
Total per manufacturer		209	\$18,537.95	\$0.00	varies
Total for the industry	N / A	N/A	\$15,112,222.35	\$0.00	\$2,259,220.00

\$3,077.96

Total Number of manufacturers

Engineer/ 94.86

M
a
n
a
g
e
r
/
1
5
2
.3
1

Production Line Testing Program

Total Hours and Cost

Frequency (2)	Number of Respondents	Total hr/yr	Total Cost/yr
1	95	5,510	\$614,734.55
1	95	855	\$82,239.60
1	95	1,235	\$119,865.30
8	95	3,670	\$342,220.16
8	95	5,138	\$363,814.44
77	95	146,800	\$13,655,923.20
8	95	6,606	\$612,779.90
1	95	6,080	\$426,306.80
0	0	0	\$0.00
0	0	0	\$0.00
0	0	0	\$0.00

Efs

734

0	0	0	\$0.00
8	95	9,120	\$903,039.60
8	95	3,800	\$250,518.80
varies	N/A	N/A	N/A
N/A	179	188,814	17,371,442

Table 3 - Annual Respondent Burden and Cost - Average, Trading and Banking Program							
	Hours and Cost per Application				Total Hours and Cost		
	Respondents hr/yr	Labor Cost/yr	Capital Startup Cost	O&M Cost (1)	Number of Respondents	Total hr/yr	Total Cost/yr
Information Collection Activity							
Precertification activities/Submit info in cert application	64	\$673	\$0	\$25	23	1,472	\$16,045
Gather Information regarding point of first retail sale (2)	188	\$673	\$0	\$100	23	4,324	\$17,770
Develop and submit end-of-year-report	43	\$673	\$0	\$25	23	989	\$16,045
Develop and submit final reports	26	\$673	\$0	\$14	23	598	\$15,792
Recordkeeping (2)	28	\$673	\$0	\$14	23	644	\$15,792
Total	349	\$2,972	\$0	\$178	N/A	N/A	N/A
Total for the industry	N/A	\$77,349	\$0	\$8,900	50	8,027	\$81,443

(1) See section 6(b)ii for details. \$3,363

(2) Numbers reflect one activity done four times a year.

2020 with 2.1 multiplier

Engineer/ 94.86	Manager/ 152.31	Legal (if applicable)/ 180.08	Technician/ 66.80	Transport \$38.58/hr	Administrative/ 45.97

Table 5 - In-use Estimated Annual Respor

Hours and cost per application					
Information Collection Activity	Respondent hr/yr	Labor	Cost/yr	Capital Startup Cost	O&M Cost(1)
Review of instructions and regulations	9		\$996	\$0	\$0
Training	3		\$257	\$0	\$120
Plan activities	16		\$1,518	\$0	\$20
Procure engines	5		\$434	\$0	\$100
Ship Engines	1		\$95	\$0	\$200
Engine Maintenance	4		\$295	\$0	\$210
Testing In-house	46		\$3,297	\$0	\$900
Setting up contract	7		\$794	\$0	\$25
Testing (Contracting out)	0		\$0		
Small SI	0		\$0		\$5,667
Large SI	0		\$0		\$11,837
Marine SI	0		\$0		\$15,000
Data entry and analysis	29		\$2,450	\$0	\$10
Preparing and submitting report	21		\$2,086	\$0	\$15
Store, file and maintain records	9		\$805	\$0	\$5
Total per manufacturer	150		\$13,027	\$0	varies
Total for the industry	N/A		\$123,482	\$0	\$181,820

Total number of manufacturers

E
n
g
i
n
e
e
r
/
9
4
.8
6

Ident Burden and Cost			
	Total hours and cost		
Frequency (2)	Number of Respondents	Total hr/yr	Total Cost/yr
1	7	63	\$6,975
1	7	21	\$2,636
1	7	112	\$10,764
1.57	7	55	\$5,874
1.57	7	11	\$3,243
1.57	7	44	\$5,558
1.57	7	506	\$46,170
0	0	0	\$0
0	0	0	\$0
0	0	0	\$0
1.57	7	0	\$165,000
1.57	7	319	\$27,064
1.57	7	231	\$23,109
1.57	7	99	\$8,908
varies	N/A	N/A	N/A
N/A	7	1,461	\$305,302

Table 6 - Annual Respondent Burden and Cost - Selective

	Hours and Cost per Application				
	Respondent hr/yr g i n e e r \$ 9 4 . 8 6 / h r	Labor	Cost/yr	Capital Startup Cost	O&M Cost(1)
Information Collection Activity					
Provide Pre-audit information	37		\$4,010	\$0	\$0
Review of instructions and regulations	9		\$996	\$0	\$0
Training	5		\$504	\$0	\$32
Plan activities	16		\$1,518	\$0	\$32
Testing In-house	46		\$3,297	\$0	\$200
Testing Contract Out	0		\$0	\$0	\$20,000
Data entry and analysis	29		\$2,450	\$0	\$1
Preparing and submitting report	21		\$2,086	\$0	\$3
Store, file and maintain records	9		\$805	\$0	\$1
Total per manufacturer	172		\$15,667	\$0	varies
Total for the industry	N/A	N/A	\$31,333	\$0	\$538

(1) Includes diskettes, photocopying, postage expenses, phone calls, and testing costs, annualized. See section 6(b)(iii) for

(2) 1 = one time tasks; other # = number of tests performed/eng manufacturer/model year. Refer to Section 6(d) for further

(3) EPA estimates it will audit 14 manufacturers over the next 3 years. It might, however, request pre-audit information from

Average burden = total burden / # of respondents

Total of 8 SEAs in 2017, though the three year average was about 5 per year.

Manager/ 152.31

Engineer/ 94.86
Technician/ 66.80
Administrative/ 45.97
Legal (if applicable)/ 180.08

Enforcement Auditing (SEA) Program

Frequency (2)	Total Hours and Cost		
	Number of Respondents (5)	Total hr/yr	Total Cost/yr
1	2	74	\$8,021
1	2	18	\$1,993
1	2	10	\$1,071
1	2	32	\$3,100
1	2	92	\$6,995
1	0	0	\$0
1	2	58	\$4,903
1	2	42	\$4,178
1	2	18	\$1,612
varies	N/A	N/A	N/A
N/A	5	344	\$31,871

details.

detail.

several manufacturers each year.

Table 8 - Annual Agency Burden and Cost

Employee	Hours and Labor Cost						
	Level	Rate	Rate Increase by 1.6	Number of Employees	Full time hours	% of Time	Total hr/yr
Engineer	GS-13/6	\$56.75	\$90.80	10	2080	100%	20800
Contract	GS-13/6	\$56.75	\$90.80	1	2080	30%	624
Attorney	GS-13/7	\$58.37	\$93.40	1	2080	20%	416
Managers	GS-15/1	\$66.72	\$106.75	1	2080	100%	2080
SES-1	SES - 1	\$82.93	\$132.69	1	2080	15%	312
IT Support	GS-13/6	\$56.75	\$90.80	5	2080	30%	3120
SEE Support				6	2080	100%	12480
Subtotal				25	N/A	N/A	39,832

O&M Costs

Testing	
Other	
SEE Support	
Contract Support - Compliance	
Contract Support - Certification	

Subtotal:

TOTAL:

Total Labor cost/yr
\$1,888,672
\$56,660
\$38,853
\$222,044
\$41,400
\$283,301
\$415,000
\$ 2,945,930

\$200,000
\$20,000
\$177,066
\$83,000
\$200,000
\$ 680,066

\$ 3,625,996

CERTIFICATION
APPLICATION
REQUIREMENTS

Amendment to the
Application

(2) The intended physically adjustable range.

(3) The limits or stops used to establish adjustable ranges.

(4) Information showing why the limits, stops, or other means of inhibiting adjustment are effective in preventing settings outside your intended physically adjustable ranges.

(u) Provide the information to read, record, and interpret all the information broadcast by an engine's onboard computer. Upon request, you will give us any hardware, software, or tools we would need to do this. If you broadcast a surrogate, provide us what we need to convert these into torque units. You may reference any appropriate publicly released messages and parameters. Format your information consistent with publicly released standards.

(v) Confirm that your emission-related installation instructions specify how to ensure that sampling of exhaust emissions is in equipment and placed in service. If this cannot be done by simply adding a 20-centimeter extension to the exhaust in a way that prevents diluting the exhaust sample with ambient air.

(w) State whether your certification is intended to include engines used in stationary applications. Also state whether. If this is the case, describe how you will prevent use of these engines in applications for which they are not certified.

(1) Constant-speed engines.

(2) Variable-speed engines.

(x) Unconditionally certify that all the engines in the engine family comply with the requirements of this part, other than the Act.

(y) Include good-faith estimates of U.S.-directed production volumes. Include a justification for the estimated production volumes that are greater than actual production volumes in earlier years for similar models.

(z) Include other applicable information, such as information specified in this part or part 1068 of this chapter related to the requirements of this part.

(aa) Name an agent for service located in the United States. Service on this agent constitutes service on you or the EPA or otherwise by the United States related to the requirements of this part.

Before we issue you a certificate of conformity, you may amend your application to include new or modified engine configurations within the scope of the certificate, subject to the provisions of this section. You must amend your application to include any information included in your application.

(a) You must amend your application before you take any of the following actions:

(1) Add an engine configuration to an engine family. In this case, the engine configuration added must be consistent with the engine family with respect to the criteria listed in §1048.230.

(2) Change an engine configuration already included in an engine family in a way that may affect emissions, or change the engine family for your application for certification. This includes production and design changes that may affect emissions any time after the date of your application.

(b) To amend your application for certification, send the Designated Compliance Officer the following information:

(1) Describe in detail the addition or change in the engine model or configuration you intend to make.

(2) Include engineering evaluations or data showing that the amended engine family complies with all applicable requirements. If the original emission-data engine is still appropriate for showing that the amended family complies with all applicable requirements, you may use the original emission-data engine.

(3) If the original emission-data engine for the engine family is not appropriate to show compliance for the new or modified engine configuration, include data showing that the new or modified engine configuration meets the requirements of this part.

(c) We may ask for more test data or engineering evaluations. You must give us these within 30 days after we request them.

(d) For engine families already covered by a certificate of conformity, we will determine whether the existing certificate of conformity covers the new or modified engine. You may ask for a hearing if we deny your request (see §1048.820).

(e) For engine families already covered by a certificate of conformity, you may start producing the new or modified engine configuration after you submit your amended application and before we make a decision under paragraph (d) of this section. However, if we determine that the new or modified engine configuration does not meet applicable requirements, we will notify you to cease production of the engines and may require you to recall the engines. Your production of engines under this paragraph (e) is deemed to be consent to recall all engines that we determine do not meet applicable requirements and to remedy the nonconformity at no expense to the owner. If you do not provide information requested within 30 days after we request it, you must stop producing the new or modified engines.