specified in 40 CFR 90.103 and summarized in the following tables:

Table 3 to Appendix I—Phase 1 Emission Standards for Nonhandheld Engines (g/kW-hr) ^a

Engine displacement class	HC+NO _x	со
Class I	16.1 13.4	519 519

^a Phase 1 standards are based on testing with new engines only.

Table 4 to Appendix I—Phase 2 Emission Standards for Nonhandheld Engines (g/kW-hr)

Engine displacement class	HC+NO _X	NMHC+ NO _X	со
Class I-A	50 40	37	610 610
Class I	16.1	14.8	610
Class II a	12.1	11.3	610

a The Class II standards shown are the fully phased-in standards. See 40 CFR 90.103 for standards that applied during the phase-in period.

APPENDIX II TO PART 1054—DUTY CYCLES FOR LABORATORY TESTING

(a) Test handheld engines with the following steady-state duty cycle:

G3 mode No.	Engine speed ^a	Torque (per- cent) ^b	Weighting factors
1	Rated speed	100	0.85
	Warm idle	0	0.15

^aTest engines at the specified speeds as described in § 1054.505.

- (b) Test nonhandheld engines with one of the following steady-state duty cycles:
- (1) The following duty cycle applies for discrete-mode testing:

G2 mode No. a	Torque (per- cent) b	Weighting factors
1	100	0.09
2	75	0.2
3	50	0.29
4	25	0.3
5	10	0.07
6	0	0.05

^a Control engine speed as described in §1054.505. Control engine speed for Mode 6 as described in §1054.505(c) for idle operation.

	RMC mode ^a	Time in mode (sec- onds)	Torque (per- cent) b, c
1a	Steady-state	41	0
1b	Transition	20	*
2a	Steady-state	135	100
2b	Transition	20	*
За	Steady-state	112	10
3b	Transition	20	*
4a	Steady-state	337	75
4b	Transition	20	*
5a	Steady-state	518	25
5b	Transition	20	*
6a	Steady-state	494	50
6b	Transition	20	*
7	Steady-state	43	0

^{*} Linear transition.

PART 1060—CONTROL OF EVAPORATIVE EMISSIONS FROM NEW AND IN-USE NONROAD AND STATIONARY EQUIPMENT

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Sec.

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bTest engines at 100 percent torque by setting operator demand to maximum. Control torque during idle at its warm idle speed as described in 40 CFR 1065.510.

^bThe percent torque is relative to the value established for full-load torque, as described in § 1054.505.

⁽²⁾ The following duty cycle applies for ramped-modal testing:

a Control engine speed as described in § 1054.505. Control engine speed for Mode 6 as described in § 1054.505(c) for idle operation.

b Advance from one mode to the next within a 20-second transition phase. During the transition phase, command a linear progression from the torque setting of the current mode to the torque setting of the next mode.

or The percent torque is relative to the value established for full-load torque, as described in § 1054.505.

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Subpart A—Overview and Applicability

\$1060.1 Which products are subject to this part's requirements?

(a) The standards and other requirements in this part 1060 apply to the fuel lines, fuel tanks, couplings and fittings, and fuel caps used or intended to be used in the following categories of new engines and equipment that are fueled with a volatile liquid fuel (such as gasoline, but not including diesel fuel), and to the equipment in which these components are installed, starting with the model years shown in Table 1 to this section:

(1) Compression-ignition engines we regulate under 40 CFR part 1039. This includes stationary compression-ignition engines we regulate under the provisions of 40 CFR part 1039, as indicated under 40 CFR part 60, subpart IIII. See the evaporative emission standards specified in 40 CFR 1048.105. These engines are considered to be Large SI engines for purposes of this part 1060.

(2) Marine compression-ignition engines we regulate under 40 CFR part 1042. See the evaporative emission standards specified in 40 CFR 1045.112. These engines are considered to be Marine SI engines for purposes of this part 1060.

- (3) Marine SI engines we regulate under 40 CFR part 1045. See the evaporative emission standards specified in 40 CFR 1045.112.
- (4) Large SI engines we regulate under 40 CFR part 1048. This includes

stationary spark-ignition engines subject to standards under 40 CFR parts 1048 or 1054 as indicated in 40 CFR part 60, subpart JJJJ. See the evaporative emission standards specified in 40 CFR 1048.105.

- (5) Recreational vehicles and engines we regulate under 40 CFR part 1051 (such as snowmobiles and off-highway motorcycles). This includes highway motorcycles subject to standards under 40 CFR part 1051 as indicated in 40 CFR part 86, subpart E since these motorcycles are considered to be recreational vehicles for purposes of this part 1060. See the evaporative emission standards specified in 40 CFR 1051.110.
- (6) Small SI engines we regulate under 40 CFR part 1054. See the evaporative emission standards specified for handheld engines in 40 CFR 1054.110 and for nonhandheld engines in 40 CFR 1054.112.
- (7) Portable marine fuel tanks and fuel lines associated with such fuel tanks must meet evaporative emission standards specified in 40 CFR 1045.112. Portable nonroad fuel tanks and fuel lines associated with such fuel tanks must also meet evaporative emission standards specified in 40 CFR 1045.112, whether or not they are used with marine vessels. Portable nonroad fuel tanks are considered to be portable marine fuel tanks for purposes of this part 1060.
- (b) The regulations in this part 1060 apply for new replacement components used with any of the engines or equipment specified in paragraph (a) of this section as described in §1060.601.
- (c) Fuel caps are subject to evaporative emission standards at the point

- of installation on a fuel tank. If a fuel cap is certified for use with Marine SI engines or Small SI engines under the optional standards of \$1060.103, it is subject to all the requirements of this part 1060 as if these optional standards were mandatory.
- (d) This part 1060 does not apply to any diesel-fueled engine or any other engine that does not use a volatile liquid fuel. In addition, this part does not apply to any engines or equipment in the following categories even if they use a volatile liquid fuel:
- (1) Light-duty motor vehicles (see 40 CFR part 86).
- (2) Heavy-duty motor vehicles and heavy-duty motor vehicle engines (see 40 CFR part 86). This part 1060 also does not apply to fuel systems for nonroad engines where such fuel systems are subject to part 86 because they are part of a heavy-duty motor vehicle.
- (3) Aircraft engines (see 40 CFR part 87).
- (4) Locomotives (see 40 CFR part 92 and 1033).
- (5) Land-based nonroad diesel engines we regulate under 40 CFR part 89.
- (6) Marine diesel engines we regulate under 40 CFR part 89, 94, or 1042.
- (7) Land-based spark-ignition engines at or below 19 kW that we regulate under 40 CFR part 90. Note that there are provisions in 40 CFR part 90 that reference specific portions of this part 1060.
- (8) Marine spark-ignition engines we regulate under 40 CFR part 91.
- (e) This part 1060 does not apply for fuel lines made wholly of metal.

TABLE 1 TO § 1060.1—PART 1060 APPLICABILITY A

Equipment category or subcategory	Fuel line permeation	Tank permeation	Diurnal emissions	Running loss emissions
Marine SI—portable marine fuel tanks.	January 1, 2009 b	January 1, 2011	January 1, 2010	Not applicable.
Marine SI—personal watercraft.	January 1, 2009	Model year 2011	Model year 2010	Not applicable.
Marine SI—other ves- sels with installed fuel tanks.	January 1, 2009 b	Model year 2012	July 31, 2011	Not applicable.
Large SI	Model year 2007	Not applicable	Model year 2007 (in- cludes tank perme- ation).	Model year 2007.
Recreational vehicles	Model year 2008	Model year 2008	Not applicable	Not applicable.
Small SI-handheld	Model year 2012 c	Model year 2010 d	Not applicable	Not applicable.
Small SI—Class I nonhandheld.	January 1, 2009	Model year 2012	Not applicable •	Model year 2012.

TABLE 1 TO § 1060.1—PART 1060 APPLICABILITY A—Continued

Equipment category or subcategory	Fuel line permeation	Tank permeation	Diurnal emissions	Running loss emissions
Small SI—Class II nonhandheld.	January 1, 2009	Model year 2011	Not applicable e	Model year 2011.

a 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.

b_anuary 1, 2011 for primer bulbs. Standards phase in for under-cowl fuel lines on outboard engines, by length: 30% in 2010, 60% in 2011, 90% in 2012–2014, 100% in 2015.

c2013 for small-volume emission families that do not include cold-weather fuel lines.
d2011 for structurally integrated nylon fuel tanks and 2013 for all small-volume emission families.

eManufacturers may optionally meet diurnal standards as specified in § 1060.105(e).

$\S 1060.5$ Do the requirements of this part apply to me?

The requirements of this part are generally addressed to the manufacturers that are subject to this part's requirements as described in paragraph (a) of this section. The term "you" generally means the manufacturer or manufacturers that are subject to these requirements. Paragraphs (b) through (e) of this section describe which manufacturers may or must certify their products. (Note: §1060.601(f) allows the certification responsibility to be delegated in certain circumstances.)

(a) Overall responsibilities. Manufacturers of the engines, equipment, and fuel-system components described in §1060.1 are subject to the standards and other requirements of this part 1060 except as otherwise noted. Multiple manufacturers may be subject to these standards and other requirements. For example, when a Small SI equipment manufacturer buys fuel line manufactured by another person and installs them in its equipment, both the equipment manufacturer and the fuel line manufacturer are subject to the standards and other requirements of this part. The following provisions apply in such cases:

(1) Each person meeting the definition of manufacturer for a product that is subject to the standards and other requirements of this part must comply with such requirements. However, if one person complies with a specific requirement for a given product, then all manufacturers are deemed to have complied with that specific requirement. For example, if a Small SI equipment manufacturer uses fuel lines manufactured and certified by another

company, the equipment manufacturer is not required to obtain a certificate with respect to the fuel line emission standards. Such an equipment manufacturer remains subject to the standards and other requirements of this part. However, where a provision requires a specific manufacturer to comply with certain provisions, this paragraph (a) does not change or modify such a requirement. For example, this paragraph (a) does not allow you to rely on another company to certify instead of you if we specifically require you to certify.

- (2) The requirements of subparts C and D of this part apply to the manufacturer that obtains the certificate of conformity. Other manufacturers are required to comply with the requirements of subparts C and D of this part only when we send notification. In our notification, we will specify a reasonable period for complying with the requirements identified in the notice. See §1060.601 for the applicability of 40 CFR part 1068 to these other manufacturers.
- (3) Certificate holders are responsible for meeting all applicable requirements even if other manufacturers are also subject to those requirements.
- (b) Marine SI. Certify vessels, engines, and fuel-system components as follows:
- (1) Component manufacturers must certify their fuel lines and fuel tanks intended for installation with Marine SI engines and vessels under this part 1060, except as allowed by §1060.601(f). This includes permeation and diurnal emission standards.
- (2) Vessel manufacturers are subject to all the requirements of this part 1060 that apply to Marine SI engines and

fuel systems. However, they must certify their vessels to the emission standards specified in §\$1060.102 through 1060.105 only if one or more of the following conditions apply:

- (i) Vessel manufacturers install certified components that are not certified to meet all applicable evaporative emission standards, including both permeation and diurnal standards. This would include vessel manufacturers that make their own fuel tanks. Vessel manufacturers would certify under this part 1060.
- (ii) Vessel manufacturers intend to generate or use evaporative emission credits, even if they use only certified components to meet all applicable evaporative emission standards. Vessel manufacturers would certify under part 40 CFR part 1045 using the emission-credit provisions in subpart H of that part to demonstrate compliance with the emission standard.
- (3) Engine manufacturers must meet all the requirements of this part 1060 that apply to vessel manufacturers for all fuel-system components they install on their engines. For example, engine manufacturers that install undercowl fuel lines and fuel tanks must comply with the requirements specified for vessel manufacturers with respect to those components.
- (c) Large SI. Certify engines, equipment, and fuel-system components as follows:
- (1) Engine manufacturers must certify their engines under 40 CFR part 1048.
- (2) Equipment manufacturers and component manufacturers may certify fuel lines and fuel tanks intended for use with Large SI engines under this part 1060.
- (d) Recreational vehicles. Certify vehicles, engines and fuel-system components as follows:
- (1) Vehicle manufacturers must certify their vehicles under 40 CFR part 1051.
- (2) Engine manufacturers must meet all the requirements of 40 CFR part

1051 that apply to vehicle manufacturers for all fuel-system components they install on their engines. For example, engine manufacturers that install fuel-line segments on the engines they ship to vehicle manufacturers must comply with the requirements specified for equipment manufacturers with respect to those components.

- (3) Component manufacturers may certify fuel lines and fuel tanks intended for recreational vehicles under this part 1060.
- (e) Small SI. Certify engines, equipment, and fuel-system components as follows:
- (1) Component manufacturers must certify their fuel lines and fuel tanks intended for Small SI engines and equipment under this part 1060, except as allowed by §1060.601(f).
- (2) Engine manufacturers must meet all the requirements of this part 1060 that apply to equipment manufacturers for all fuel-system components they install on their engines. Engine manufacturers that produce Small SI engines with complete fuel systems are considered the equipment manufacturers for those engines under this part 1060.
- (3) Equipment manufacturers must certify their equipment and are subject to all the requirements of this part 1060.
- (f) Summary of certification responsibilities. Tables 1 through 3 of this section summarize the certification responsibilities for different kinds of manufacturers as described in paragraphs (b) through (e) of this section. The term "No" as used in the tables means that a manufacturer is not required to obtain a certificate of conformity under paragraphs (b) through (e) of this section. In situations where multiple manufacturers are subject to the standards and other requirements of this part, such a manufacturer must nevertheless certify if the manufacturer who is required to certify under paragraphs (b) through (e) of this section fails to obtain a certificate of conformity.

TABLE 1 TO § 1060.5—SUMMARY OF ENGINE MANUFACTURER CERTIFICATION RESPONSIBILITIES

Equipment type	Is the engine manufacturer required to certify fuel systems? a	Code of Federal Regulations cite for certification
Marine SI	No	

Table 1 to § 1060.5—Summary of Engine Manufacturer Certification Responsibilities— Continued

Equipment type	Is the engine manufacturer required to certify fuel systems? a	Code of Federal Regulations cite for certification
Large SI		40 CFR part 1048.
	No, unless engines are sold with complete fuel systems	40 CFR part 1060.

^a Fuel lines and fuel tanks that are attached to or sold with engines must be covered by a certificate of conformity.

TABLE 2 TO § 1060.5—SUMMARY OF EQUIPMENT MANUFACTURER CERTIFICATION RESPONSIBILITIES

Equipment type	Is the equipment manufacturer required to certify fuel systems?	Code of Federal Regulations cite for certification
Marine SI	Yes, but only if vessel manufacturers install uncertified fuel lines or fuel tanks or intend to generate or use evaporative emission credits.	40 CFR part 1060.a
Large SI	Allowed but not required	40 CFR part 1060.
Recreational vehicles	Yes, even if vehicle manufacturers install certified components.	40 CFR part 1051.
Small SI	Yes	40 CFR part 1060.a

^a See the exhaust standard-setting part for provisions related to generating or using evaporative emission credits.

TABLE 3 OF § 1060.5—SUMMARY OF COMPONENT MANUFACTURER CERTIFICATION RESPONSIBILITIES

· ·		
Equipment type	Is the component manufacturer required to certify fuel lines and fuel tanks?	Code of Federal Regulations cite for certification
Marine SI	Yes, including portable marine fuel tanks and associated fuel lines.	40 CFR part 1060.
Large SI	Allowed but not required	40 CFR part 1060.
	Allowed but not required	40 CFR part 1060.
Small SI	Yesa	40 CFR part 1060.

a See § 1060.601 for an allowance to make contractual arrangements with engine or equipment manufacturers instead of certifying.

§ 1060.10 How is this part organized?

This part 1060 is divided into the following subparts:

- (a) Subpart A of this part defines the applicability of part 1060 and gives an overview of regulatory requirements.
- (b) Subpart B of this part describes the emission standards and other requirements that must be met to certify equipment or components under this part. Note that §1060.110 discusses certain interim requirements and compliance provisions that apply only for a limited time.
- (c) Subpart C of this part describes how to apply for a certificate of conformity.
- (d) Subpart D of this part describes the requirements related to verifying that products are being produced as described in an approved application for certification.
- (e) Subpart E of this part describes the requirements related to verifying

that products are meeting the standards in use.

- (f) Subpart F of this part describes how to measure evaporative emissions.
- (g) Subpart G of this part and 40 CFR part 1068 describe requirements, prohibitions, and other provisions that apply to manufacturers, owners, operators, and all others.
- (h) Subpart H of this part describes how to certify your equipment or components for inclusion in an emission averaging program allowed by an exhaust standard-setting part.
- (i) Subpart I of this part contains definitions and other reference information.

§ 1060.15 Do any other CFR parts apply to me?

(a) There is a separate part of the CFR that includes exhaust emission requirements for each particular application, as described in §1060.1(a). We refer

to these as the exhaust standard-setting parts. In cases where an exhaust standard-setting part includes evaporative requirements, apply this part 1060 as specified in the exhaust standard-setting part, as follows:

- (1) The requirements in the exhaust standard-setting part may differ from the requirements in this part. In cases where it is not possible to comply with both the exhaust standard-setting part and this part, you must comply with the requirements in the exhaust standard-setting part. The exhaust standard-setting part may also allow you to deviate from the procedures of this part for other reasons.
- (2) The exhaust standard-setting parts may reference some sections of this part 1060 or may allow or require certification under this part 1060. See the exhaust standard-setting parts to determine what provisions of this part 1060 apply for these equipment types.
- (b) The requirements and prohibitions of part 1068 of this chapter apply to everyone, including anyone who manufactures, imports, owns, operates, or services any of the fuel systems subject to this part 1060. Part 1068 of this chapter describes general provisions, including the following areas:
- (1) Prohibited acts and penalties for engine manufacturers, equipment manufacturers, and others.
- (2) Exclusions and exemptions for certain products.
 - (3) Importing products.
 - (4) Defect reporting and recall.
 - (5) Procedures for hearings.
- (c) Other parts of this chapter apply if referenced in this part.

§ 1060.30 Submission of information.

(a) This part includes various requirements to record data or other information. Refer to \$1060.825, 40 CFR 1068.25, and the exhaust standard-setting part regarding recordkeeping requirements. If recordkeeping requirements are not specified, store these records in any format and on any media and keep them readily available for one year after you send an associated application for certification, or one year after you generate the data if they do not support an application for certification. You must promptly send us organized, written records in

English if we ask for them. We may review them at any time.

- (b) The regulations in §1060.255 and 40 CFR 1068.101 describe your obligation to report truthful and complete information and the consequences of failing to meet this obligation. This includes information not related to certification.
- (c) Send all reports and requests for approval to the Designated Compliance Officer (see § 1060.801).
- (d) Any written information we require you to send to or receive from another company is deemed to be a required record under this section. Such records are also deemed to be submissions to EPA. We may require you to send us these records whether or not you are a certificate holder.

Subpart B—Emission Standards and Related Requirements

§ 1060.101 What evaporative emission requirements apply under this part?

Products subject to this part must meet emission standards and related requirements as follows:

- (a) Section 1060.102 describes permeation emission control requirements for fuel lines.
- (b) Section 1060.103 describes permeation emission control requirements for fuel tanks.
- (c) Section 1060.104 describes running loss emission control requirements for fuel systems.
- (d) Section 1060.105 describes diurnal emission control requirements for fuel tanks.
- (e) The following general requirements apply for components and equipment subject to the emission standards in §§ 1060.102 through 1060.105:
- (1) Adjustable parameters. Components or equipment with adjustable parameters must meet all the requirements of this part for any adjustment in the physically adjustable range.
- (2) Prohibited controls. The following controls are prohibited:
- (i) For anyone to design, manufacture, or install emission control systems so they cause or contribute to an unreasonable risk to public health, welfare, or safety while operating.

- (ii) For anyone to design, manufacture, or install emission control systems with features that disable, deactivate, or bypass the emission controls, either actively or passively. For example, you may not include a manual vent that the operator can open to bypass emission controls. You may ask us to allow such features if needed for safety reasons or if the features are fully functional during emission tests described in subpart F of this part.
- (3) Emission credits. Equipment manufacturers are allowed to comply with the emission standards in this part using evaporative emission credits only if the exhaust standard-setting part explicitly allows it for evaporative emissions. See the exhaust standard-setting part and subpart H of this part for information about complying with evaporative emission credits. For equipment manufacturers to generate or use evaporative emission credits, components must be certified to a family emission limit, which serves as the standard for those components.
- (f) This paragraph (f) specifies requirements that apply to equipment manufacturers subject to requirements under this part, whether or not they are subject to and certify to any of the emission standards in §§1060.102 through 1060.105. Equipment manufacturers meeting these requirements will be deemed to be certified as in conformity with the requirements of this paragraph (f) without submitting an application for certification, as follows:
- (1) Fuel caps, vents, and carbon canisters. You are responsible for ensuring that proper caps and vents are installed on each new piece of equipment that is subject to emission standards under this part. The following particular requirements apply to equipment that is subject to running loss or diurnal emission standards, including portable marine fuel tanks:
- (i) All equipment must have a tethered fuel cap. Fuel caps must also include a visual, audible, or other physical indication that they have been properly sealed.
- (ii) You may not add vents unless they are specified in or allowed by the applicable certificates of conformity.

- (iii) If the emission controls rely on carbon canisters, they must be installed in a way that prevents exposing the carbon to water or liquid fuel.
- (2) Fuel-line fittings. The following requirements apply for fuel-line fittings that will be used with fuel lines that must meet permeation emission standards:
- (i) Use good engineering judgment to ensure that all fuel-line fittings will remain securely connected to prevent fuel leakage throughout the useful life of the equipment.
- (ii) Fuel lines that are intended to be detachable (such as those for portable marine fuel tanks) must be self-sealing when detached from the fuel tank or engine.
- (3) Refueling. For any equipment using fuel tanks that are subject to diurnal or permeation emission standards under this part, you must design and build your equipment such that operators can reasonably be expected to fill the fuel tank without spitback or spillage during the refueling event. The following examples illustrate designs that meet this requirement:
- (i) Equipment that is commonly refueled using a portable gasoline container should have a fuel tank inlet that is larger than a typical dispensing spout. The fuel tank inlet should be located so the operator can place the nozzle directly in the fuel tank inlet and see the fuel level in the tank while pouring the fuel from an appropriately sized refueling container (either through the tank wall or the fuel tank inlet). We will deem you to comply with the requirements of this paragraph (f)(3)(i) if you design your equipment to meet applicable industry standards related to fuel tank inlets.
- (ii) Marine SI vessels with a filler neck extending to the side of the boat should be designed for automatic fuel shutoff. Alternatively, the filler neck should be designed such that the orientation of the filler neck allows dispensed fuel that collects in the filler neck to flow back into the fuel tank. A filler neck that ends with a horizontal or nearly horizontal segment at the opening where fuel is dispensed would not be an acceptable design.
- (g) Components and equipment must meet the standards specified in this

part throughout the applicable useful life. Where we do not specify procedures for demonstrating the durability of emission controls, use good engineering judgment to ensure that your products will meet the standards throughout the useful life. The useful life is one of the following values:

- (1) The useful life in years specified for the components or equipment in the exhaust standard-setting part.
- (2) The useful life in years specified for the engine in the exhaust standardsetting part if the exhaust standards are specified for the engine rather than the equipment and there is no useful life given for components or equipment.
- (3) Five years if no useful life is specified in years for the components, equipment, or engines in the exhaust standard-setting part.

§ 1060.102 What permeation emission control requirements apply for fuel lines?

- (a) Nonmetal fuel lines must meet permeation requirements as follows:
- (1) Marine SI fuel lines, including fuel lines associated with outboard engines or portable marine fuel tanks, must meet the permeation requirements in this section.
- (2) Large SI fuel lines must meet the permeation requirements specified in 40 CFR 1048.105.
- (3) Fuel lines for recreational vehicles must meet the permeation requirements specified in 40 CFR 1051.110 or in this section.
- (4) Small SI fuel lines must meet the permeation requirements in this section, unless they are installed in equipment certified to meet diurnal emission standards under §1060.105(e).
- (b) Different categories of nonroad equipment are subject to different requirements with respect to fuel line permeation. Fuel lines are classified based on measured emissions over the test procedure specified for the class.
- (c) The regulations in 40 CFR part 1048 require that fuel lines used with Large SI engines must meet the standards for EPA Low-Emission Fuel Lines. The regulations in 40 CFR part 1054 require that fuel lines used with handheld Small SI engines installed in cold-weather equipment must meet the

standards for EPA Cold-Weather Fuel Lines. Unless specified otherwise in this subchapter U, fuel lines used with all other engines and equipment subject to the provisions of this part 1060, including fuel lines associated with outboard engines or portable marine fuel tanks, must meet the standards for EPA Nonroad Fuel Lines.

- (d) The following standards apply for each fuel line classification:
- (1) EPA Low-Emission Fuel Lines must have permeation emissions at or below 10 g/m²/day when measured according to the test procedure described in §1060.510. Fuel lines that comply with this emission standard are deemed to comply with all the emission standards specified in this section.
- (2) EPA Nonroad Fuel Lines must have permeation emissions at or below 15 g/m 2 /day when measured according to the test procedure described in §1060.515.
- (3) EPA Cold-Weather Fuel Lines must meet the following permeation emission standards when measured according to the test procedure described in \$1060.515:

TABLE 1 TO § 1060.102—PERMEATION STAND-ARDS FOR EPA COLD-WEATHER FUEL LINES

Model year	Standard (g/m²/day)
2012	290
2013	275
2014	260
2015	245
2016 and later	225

- (e) You may certify fuel lines as follow:
- (1) You may certify straight-run fuel lines as sections of any length.
- (2) You may certify molded fuel lines in any configuration representing your actual production, subject to the provisions for selecting a worst-case configuration in §1060.235(b).
- (3) You may certify fuel line assemblies as aggregated systems that include multiple sections of fuel line with connectors and fittings. For example, you may certify fuel lines for portable marine fuel tanks as assemblies of fuel hose, primer bulbs, and self-sealing end connections. The length of such an assembly must not be longer than a typical in-use installation and must always be less than 2.5

meters long. You may also certify primer bulbs separately. The standard applies with respect to the total permeation emissions divided by the wetted internal surface area of the assembly. Where it is not practical to determine the actual internal surface area of the assembly, you may assume that the internal surface area per unit length of the assembly is equal to the ratio of internal surface area per unit length of the hose section of the assembly.

[73 FR 59298, Oct. 8, 2008, as amended at 74 FR 8426, Feb. 24, 2009]

§ 1060.103 What permeation emission control requirements apply for fuel tanks?

- (a) Fuel tanks must meet permeation requirements as follows:
- (1) Marine SI fuel tanks, including engine-mounted fuel tanks and portable marine fuel tanks, must meet the permeation requirements in this section
- (2) Large SI fuel tanks must meet diurnal emission standards as specified in §1060.105, which includes measurement of permeation emissions. No separate permeation standard applies.
- (3) Fuel tanks for recreational vehicles must meet the permeation requirements specified in 40 CFR 1051.110 or in this section.
- (4) Small SI fuel tanks must meet the permeation requirements in this section unless they are installed in equipment certified to meet diurnal emission standards under § 1060.105(e).
- (b) Permeation emissions from fuel tanks may not exceed 1.5 g/m²/day when measured at a nominal temperature of 28 °C with the test procedures for tank permeation in \$1060.520. You may also choose to meet a standard of 2.5 g/m²/day if you perform testing at a nominal temperature of 40 °C under \$1060.520(d).
- (c) The exhaust standard-setting part may allow for certification of fuel tanks to a family emission limit for calculating evaporative emission credits as described in subpart H of this part instead of meeting the emission standards in this section.
- (d) For purposes of this part, fuel tanks do not include fuel lines that are subject to §1060.102, petcocks designed for draining fuel, grommets used with

fuel lines, or grommets used with other hose or tubing excluded from the definition of "fuel line." Fuel tanks include other fittings (such as fuel caps, gaskets, and O-rings) that are directly mounted to the fuel tank.

- (e) Fuel caps may be certified separately relative to the permeation emission standard in paragraph (b) of this section using the test procedures specified in §1060.521. Fuel caps certified alone do not need to meet the emission standard. Rather, fuel caps would be certified with a Family Emission Limit, which is used for demonstrating that fuel tanks meet the emission standard as described in §1060.520(b)(5). For the purposes of this paragraph (e), gaskets or O-rings that are produced as part of an assembly with the fuel cap are considered part of the fuel cap.
- (f) Metal fuel tanks that meet the permeation criteria in §1060.240(d)(2) or use certified nonmetal fuel caps will be deemed to be certified as in conformity with the requirements of this section without submitting an application for certification.

[73 FR 59298, Oct. 8, 2008, as amended at 74 FR 8427, Feb. 24, 2009; 75 FR 23026, Apr. 30, 2010]

§ 1060.104 What running loss emission control requirements apply?

- (a) Engines and equipment must meet running loss requirements as follows:
- (1) Marine SI engines and vessels are not subject to running loss emission standards.
- (2) Large SI engines and equipment must prevent fuel boiling during operation as specified in 40 CFR 1048.105.
- (3) Recreational vehicles are not subject to running loss emission standards.
- (4) Nonhandheld Small SI engines and equipment that are not used in wintertime equipment must meet running loss requirements described in this section. Handheld Small SI engines and equipment are not subject to running loss emission standards.
- (b) You must demonstrate control of running loss emissions in one of the following ways if your engines or equipment are subject to the requirements of this section:
- (1) Route running loss emissions into the engine intake system so fuel vapors

vented from the tank during engine operation are combusted in the engine. This may involve routing vapors through a carbon canister. If another company has certified the engine with respect to exhaust emissions, state in your application for certification that you have followed the engine manufacturer's installation instructions.

- (2) Use a fuel tank that remains sealed under normal operating conditions. This may involve a bladder or other means to prevent pressurized fuel tanks.
- (3) Get an approved Executive Order from the California Air Resources Board showing that your system meets applicable running loss standards in California.
- (c) If you are subject to both running loss and diurnal emission standards, use good engineering judgment to ensure that the emission controls are compatible.

§ 1060.105 What diurnal requirements apply for equipment?

- (a) Fuel tanks must meet diurnal emission requirements as follows:
- (1) Marine SI fuel tanks, including engine-mounted fuel tanks and portable marine fuel tanks, must meet the requirements related to diurnal emissions specified in this section.
- (2) Large SI fuel tanks must meet the requirements related to diurnal emissions specified in 40 CFR 1048.105.
- (3) Recreational vehicles are not subject to diurnal emission standards.
- (4) Small SI fuel tanks are not subject to diurnal emission standards, except as specified in paragraph (e) of this section.
- (b) Diurnal emissions from Marine SI fuel tanks may not exceed 0.40 g/gal/day when measured using the test procedures specified in \$1060.525 for general fuel temperatures. An alternative standard of 0.16 g/gal/day applies for fuel tanks installed in nontrailerable boats when measured using the corresponding fuel temperature profile in \$1060.525. Portable marine fuel tanks are not subject to the requirements of this paragraph (b), but must instead comply with the requirements of paragraphs (c) and (d) of this section.

- (c) Portable marine fuel tanks and associated fuel-system components must meet the following requirements:
- (1) They must be self-sealing when detached from the engines. The tanks may not vent to the atmosphere when attached to an engine. An integrated or external manually activated device may be included in the fuel tank design to temporarily relieve pressure before refueling or connecting the fuel tank to the engine. However, the default setting for such a vent must be consistent with the requirement in paragraph (c)(2) of this section.
- (2) They must remain sealed up to a positive pressure of 24.5 kPa (3.5 psig); however, they may contain air inlets that open when there is a vacuum pressure inside the tank. Such fuel tanks may not contain air outlets that vent to the atmosphere at pressures below 34.5 kPa (5.0 psig).
- (d) Detachable fuel lines that are intended for use with portable marine fuel tanks must have connection points that are self-sealing when not attached to the engine or fuel tank.
- (e) Manufacturers of nonhandheld Small SI equipment may optionally meet the diurnal emission standards adopted by the California Air Resources Board in the Final Regulation Order, Article 1, Chapter 15, Division 3, Title 13, California Code of Regulations, July 26, 2004 (incorporated by reference in §1060.810). To meet this requirement, equipment must be certified to the performance standards specified in Title 13 CCR §2754(a) based on the applicable requirements specified in CP-902 and TP-902, including the requirements related to fuel caps in Title 13 CCR § 2756. Equipment certified under this paragraph (e) does not need to use fuel lines or fuel tanks that have been certified separately. Equipment certified under this paragraph (e) are subject to all the referenced requirements as if these specifications were mandatory.
- (f) The following general provisions apply for controlling diurnal emissions:
- (1) If you are subject to both running loss and diurnal emission standards, use good engineering judgment to ensure that the emission controls are compatible.

- (2) You may not use diurnal emission controls that increase the occurrence of fuel spitback or spillage during inuse refueling. Also, if you use a carbon canister, you must incorporate design features that prevent liquid gasoline from reaching the canister during refueling or as a result of fuel sloshing or fuel expansion.
- (3) You must meet the following provisions from ABYC H-25, July 2010 (incorporated by reference in §1060.810) with respect to portable marine fuel tanks:
- (i) Provide information related to the pressure relief method (25.8.2.1 and 25.8.2.1.1).
- (ii) Perform system testing (25.10 through 25.10.5).

[73 FR 59298, Oct. 8, 2008, as amended at 74 FR 8427, Feb. 24, 2009; 75 FR 56482, Sept. 16, 2010]

§ 1060.120 What emission-related warranty requirements apply?

- (a) General requirements. The certifying manufacturer must warrant to the ultimate purchaser and each subsequent purchaser that the new nonroad equipment, including its evaporative emission control system, meets two conditions:
- (1) It is designed, built, and equipped so it conforms at the time of sale to the ultimate purchaser with the requirements of this part.
- (2) It is free from defects in materials and workmanship that may keep it from meeting these requirements.
- (b) Warranty period. Your emission-related warranty must be valid for at least two years from the point of first retail sale.
- (c) Components covered. The emission-related warranty covers all components whose failure would increase the evaporative emissions, including those listed in 40 CFR part 1068, Appendix I, and those from any other system you develop to control emissions. Your emission-related warranty does not cover components whose failure would not increase evaporative emissions.
- (d) Relationships between manufacturers. (1) The emission-related warranty required for equipment manufacturers that certify equipment must cover all specified components even if another company produces the component.

(2) Where an equipment manufacturer fulfills a warranty obligation for a given component, the component manufacturer is deemed to have also met that obligation.

§ 1060.125 What maintenance instructions must I give to buyers?

Give ultimate purchasers written instructions for properly maintaining and using the emission control system. You may not specify any maintenance more frequently than once per year. For example, if you produce coldweather equipment that requires replacement of fuel cap gaskets or Orings, provide clear instructions to the ultimate purchaser, including the required replacement interval.

§ 1060.130 What installation instructions must I give to equipment manufacturers?

- (a) If you sell a certified fuel-system component for someone else to install in equipment, give the installer instructions for installing it consistent with the requirements of this part.
- (b) Make sure the instructions have the following information:
- (1) Include the heading: "Emission-related installation instructions".
- (2) State: "Failing to follow these instructions when installing [IDENTIFY COMPONENT(S)] in a piece of nonroad equipment violates federal law (40 CFR 1068.105(b)), subject to fines or other penalties as described in the Clean Air Act."
- (3) Describe any limits on the range of applications needed to ensure that the component operates consistently with your application for certification. For example:
- (i) For fuel tanks sold without fuel caps, you must specify the requirements for the fuel cap, such as the allowable materials, thread pattern, how it must seal, etc. You must also include instructions to tether the fuel cap as described in §1060.101(f)(1) if you do not sell your fuel tanks with tethered fuel caps.
- (ii) If your fuel lines do not meet permeation standards specified in §1060.102 for EPA Low-Emission Fuel Lines, tell

equipment manufacturers not to install the fuel lines with Large SI engines that operate on gasoline or another volatile liquid fuel.

- (4) Describe instructions for installing components so they will operate according to design specifications in your application for certification. Specify sufficient detail to ensure that the equipment will meet the applicable standards when your component is installed.
- (5) If you certify a component with a family emission limit above the emission standard, be sure to indicate that the equipment manufacturer must have a source of credits to offset the higher emissions. Also indicate the applications for which the regulations allow for compliance using evaporative emission credits.
- (6) Instruct the equipment manufacturers that they must comply with the requirements of § 1060.202.
- (c) You do not need installation instructions for components you install in your own equipment.
- (d) Provide instructions in writing or in an equivalent format. For example, you may post instructions on a publicly available Web site for downloading or printing, provided you keep a copy of these instructions in your records. If you do not provide the instructions in writing, explain in your application for certification how you will ensure that each installer is informed of the installation requirements.

§ 1060.135 How must I label and identify the engines and equipment I produce?

The labeling requirements of this section apply for all equipment manufacturers and for engine manufacturers that certify with respect to evaporative emissions. See §1060.137 for the labeling requirements that apply separately for fuel lines, fuel tanks, and other fuel-system components.

- (a) You must affix a permanent and legible label identifying each engine or piece of equipment before introducing it into U.S. commerce. The label must be—
- (1) Attached in one piece so it is not removable without being destroyed or defaced.

- (2) Secured to a part of the engine or equipment needed for normal operation and not normally requiring replacement.
- (3) Durable and readable for the equipment's entire life.
 - (4) Written in English.
- (5) Readily visible in the final installation. It may be under a hinged door or other readily opened cover. It may not be hidden by any cover attached with screws or any similar designs. Labels on marine vessels (except personal watercraft) must be visible from the helm.
- (b) If you hold a certificate for your engine or equipment with respect to evaporative emissions, the engine or equipment label specified in paragraph (a) of this section must—
- (1) Include the heading "EMISSION CONTROL INFORMATION".
- (2) Include your corporate name and trademark. You may identify another company and use its trademark instead of yours if you comply with the provisions of §1060.640.
- (3) State the date of manufacture [MONTH and YEAR] of the equipment; however, you may omit this from the label if you stamp or engrave it on the equipment.
- (4) State: "THIS EQUIPMENT [or VEHICLE or BOAT] MEETS U.S. EPA EVAP STANDARDS."
- (5) Identify the certified fuel-system components installed on the equipment as described in this paragraph (b)(5). Establish a component code for each certified fuel-system component, including those certified by other companies. You may use part numbers, certification numbers, or any other unique code that you or the certifying component manufacturer establish. This identifying information must correspond to printing or other labeling on each certified fuel-system component, whether you or the component manufacturer certifies the individual component. You may identify multiple part numbers if your equipment design might include an option to use more than one component design (such as from multiple component manufacturers). Use one of the following methods to include information on the label that identifies certified fuel-system components:

- (i) Use the component codes to identify each certified fuel-system component on the label specified in this paragraph (b).
- (ii) Identify the emission family on the label using EPA's standardized designation or an abbreviated equipment code that you establish in your application for certification. Equipment manufacturers that also certify their engines with respect to exhaust emissions may use the same emission family name for both exhaust and evaporative emissions. If you use the provisions of this paragraph (b)(5)(ii), you must identify all the certified fuel-system components and the associated component codes in your application for certification. In this case the label specified in this paragraph (b) may omit the information related to specific fuel-system components.
- (c) If you produce equipment without certifying with respect to evaporative emissions, the equipment label specified in paragraph (a) of this section must—
- (1) State: "MEETS U.S. EPA EVAP STANDARDS USING CERTIFIED COMPONENTS."
 - (2) Include your corporate name.
- (d) You may add information to the emission control information label as follows:
- (1) You may identify other emission standards that the engine meets or does not meet (such as California standards). You may include this information by adding it to the statement we specify or by including a separate statement.
- (2) You may add other information to ensure that the engine will be properly maintained and used.
- (3) You may add appropriate features to prevent counterfeit labels. For example, you may include the engine's unique identification number on the label.
- (e) Anyone subject to the labeling requirements in this part 1060 may ask us to approve modified labeling requirements if it is necessary or appropriate. We will approve the request if the alternate label is consistent with the requirements of this part.

[73 FR 59298, Oct. 8, 2008, as amended at 75 FR 23026, Apr. 30, 2010]

§ 1060.137 How must I label and identify the fuel-system components I produce?

The requirements of this section apply for manufacturers of fuel-system components subject to emission standards under this part 1060. However, these requirements do not apply if you produce fuel-system components that will be covered by a certificate of conformity from another company under §1060.601(f). These requirements also do not apply for components you certify if you also certify the equipment in which the component is installed and meet the labeling requirements in §1060.135.

- (a) Label the components identified in this paragraph (a), unless the components are too small to be properly labeled. Unless we approve otherwise, we consider parts large enough to be properly labeled if they have space for 12 characters in six-point font (approximately 2 mm \times 12 mm). For these small parts, you may omit the label as long as you identify those part numbers in your maintenance and installation instructions.
- (1) All fuel tanks, except for metal fuel tanks that are deemed certified under § 1060.103(f).
- (2) Fuel lines. This includes primer bulbs unless they are excluded from the definition of "fuel line" under the standard-setting part. Label primer bulbs separately.
 - (3) Carbon canisters.
- (4) Fuel caps, as described in this paragraph (a)(4). Fuel caps must be labeled if they are separately certified under \$1060.103 or if the diurnal control system requires that the fuel tank hold pressure. Fuel caps must also be labeled if they are mounted directly on the fuel tank, unless the fuel tank is certified based on a worst-case fuel cap.
- (5) Replaceable pressure-relief assemblies. This does not apply if the component is integral to the fuel tank or fuel cap.
- (6) Other components we determine to be critical to the proper functioning of evaporative emission controls.
- (b) Label your certified fuel-system components at the time of manufacture. The label must be—
- (1) Attached so it is not removable without being destroyed or defaced.

This may involve printing directly on the product. For molded products, you may use the mold to apply the label.

- (2) Durable and readable for the equipment's entire life.
 - (3) Written in English.
- (c) Except as specified in paragraph (d) of this section, you must create the label specified in paragraph (b) of this section as follows:
- (1) Include your corporate name. You may identify another company instead of yours if you comply with the provisions of §1054.640.
- (2) Include EPA's standardized designation for the emission family.
 - (3) State: "EPA COMPLIANT"
- (4) Fuel tank labels must identify the FEL, if applicable.
- (5) Fuel line labels must identify the applicable permeation level. This may involve any of the following approaches:
- (i) Identify the applicable numerical emission standard (such as $15~\text{g/m}^2/\text{day}$).
- (ii) Identify the applicable emission standards using EPA classifications (such as EPA Nonroad Fuel Lines).
- (iii) Identify the applicable industry standard specification (such as SAE J30 R12).
- (6) Fuel line labels must be continuous, with no more than 12 inches before repeating. We will consider labels to be continuous if the space between repeating segments is no longer than that of the repeated information. You may add a continuous stripe or other pattern to help identify the particular type or grade of your products.
- (d) You may create an abbreviated label for your components. Such a label may rely on codes to identify the component. The code must at a minimum identify the certification status, your corporate name, and the emission family. For example, XYZ Manufacturing may label its fuel lines as "EPA-XYZ-A15" to designate that their "A15" family was certified to meet EPA's 15 g/m²/day standard. If you do this, you must describe the abbreviated label in your application for certification and identify all the associated information specified in paragraph (c) of this section.

(e) You may ask us to approve modified labeling requirements in this section as described in §1060.135(e).

[73 FR 59298, Oct. 8, 2008, as amended at 75 FR 23026, Apr. 30, 2010]

Subpart C—Certifying Emission Families

§ 1060.201 What are the general requirements for obtaining a certificate of conformity?

Manufacturers of engines, equipment, or fuel-system components may need to certify their products with respect to evaporative emission standards as described in §\$1060.1 and 1060.601. See §1060.202 for requirements related to certifying with respect to the requirements specified in §1060.101(f). The following general requirements apply for obtaining a certificate of conformity:

- (a) You must send us a separate application for a certificate of conformity for each emission family. A certificate of conformity for equipment is valid starting with the indicated effective date but it is not valid for any production after December 31 of the model year for which it is issued. No certificate will be issued after December 31 of the model year. A certificate of conformity for a component is valid starting with the indicated effective date but it is not valid for any production after the end of the production period for which it is issued.
- (b) The application must contain all the information required by this part and must not include false or incomplete statements or information (see §1060.255).
- (c) We may ask you to include less information than we specify in this subpart as long as you maintain all the information required by §1060.250. For example, equipment manufacturers might use only components that are certified by other companies to meet applicable emission standards, in which case we would not require submission of emission data already submitted by the component manufacturer.
- (d) You must use good engineering judgment for all decisions related to your application (see 40 CFR 1068.5).
- (e) An authorized representative of your company must approve and sign the application.

- (f) See §1060.255 for provisions describing how we will process your application.
- (g) We may specify streamlined procedures for small-volume equipment manufacturers.

§ 1060.202 What are the certification requirements related to the general standards in § 1060.101?

Equipment manufacturers must ensure that their equipment is certified with respect to the general standards specified in §1060.101(f) as follows:

- (a) If §1060.5 requires you to certify your equipment to any of the emission standards specified in §\$1060.102 through 1060.105, describe in your application for certification how you will meet the general standards specified in §1060.101(f).
- (b) If §1060.5 does not require you to certify your equipment to any of the emission standards specified in §§1060.102 through 1060.105, your equipment is deemed to be certified with respect to the general standards specified in §1060.101(f) if you design and produce your equipment to meet those standards.
- (1) You must keep records as described in §1060.210. The other provisions of this part for certificate holders apply only as specified in §1060.5.
- (2) Your equipment is deemed to be certified only to the extent that it meets the general standards in \$1060.101(f). Thus, it is a violation of 40 CFR 1068.101(a)(1) to introduce into U.S. commerce such equipment that does not meet applicable requirements under \$1060.101(f).
- (c) Instead of relying on paragraph (b) of this section, you may submit an application for certification and obtain a certificate from us. The provisions of this part apply in the same manner for certificates issued under this paragraph (c) as for any other certificate issued under this part.

§ 1060.205 What must I include in my application?

This section specifies the information that must be in your application, unless we ask you to include less information under §1060.201(c). We may require you to provide additional information to evaluate your application.

- (a) Describe the emission family's specifications and other basic parameters of the emission controls. Describe how you meet the running loss emission control requirements in §1060.104, if applicable. Describe how you meet any applicable equipment-based requirements of §1060.101(e) and (f). State whether you are requesting certification for gasoline or some other fuel type. List each distinguishable configuration in the emission family.
- (b) Describe the products you selected for testing and the reasons for selecting them.
- (c) Describe the test equipment and procedures that you used, including any special or alternate test procedures you used (see § 1060.501).
- (d) List the specifications of the test fuel to show that it falls within the required ranges specified in subpart F of this part.
- (e) State the equipment applications to which your certification is limited. For example, if your fuel system meets the emission requirements of this part applicable only to handheld Small SI equipment, state that the requested certificate would apply only for handheld Small SI equipment.
- (f) Identify the emission family's useful life.
- (g) Include the maintenance instructions you will give to the ultimate purchaser of each new nonroad engine (see § 1060.125).
- (h) Include the emission-related installation instructions you will provide if someone else will install your component in a piece of nonroad equipment (see § 1060.130).
- (i) Describe your emission control information label (see $\S 1060.135$ and 1060.137).
- (j) Identify the emission standards or FELs to which you are certifying the emission family.
- (k) Present emission data to show your products meet the applicable emission standards. Note that §§ 1060.235 and 1060.240 allow you to submit an application in certain cases without new emission data.
- (1) State that your product was tested as described in the application (including the test procedures, test parameters, and test fuels) to show you meet the requirements of this part. If

you did not do the testing, identify the source of the data.

- (m) Report all test results, including those from invalid tests, whether or not they were conducted according to the test procedures of subpart F of this part. We may ask you to send other information to confirm that your tests were valid under the requirements of this part.
- (n) Unconditionally certify that all the products in the emission family comply with the requirements of this part, other referenced parts of the CFR, and the Clean Air Act.
- (0) Include good-faith estimates of U.S.-directed production volumes. Include a justification for the estimated production volumes if they are substantially different than actual production volumes in earlier years for similar models.
- (p) Include other applicable information, such as information required by other subparts of this part.
- (q) Name an agent for service located in the United States. Service on this agent constitutes service on you or any of your officers or employees for any action by EPA or otherwise by the United States related to the requirements of this part.

§ 1060.210 What records should equipment manufacturers keep if they do not apply for certification?

If you are an equipment manufacturer that does not need to obtain a certificate of conformity for your equipment as described in §1060.5, you must keep the records specified in this section to document compliance with applicable requirements. We may review these records at any time. If we ask, you must send us these records within 30 days. You must keep these records for eight years from the end of the model year.

- (a) Identify your equipment models and the annual U.S.-directed production volumes for each model.
- (b) Identify the emission family names of the certificates that will cover your equipment, the part numbers of those certified components, and the names of the companies that hold the certificates. You must be able to identify this information for each piece of equipment you produce.

(c) Describe how you comply with any emission-related installation instructions, labeling requirements, and the general standards in §1060.101(e) and (f).

§ 1060.225 How do I amend my application for certification?

Before we issue a certificate of conformity, you may amend your application to include new or modified configurations, subject to the provisions of this section. After we have issued your certificate of conformity, you may send us an amended application requesting that we include new or modified configurations within the scope of the certificate, subject to the provisions of this section. You must amend your application if any changes occur with respect to any information included in your application.

- (a) You must amend your application before you take any of the following actions:
- (1) Add a configuration to an emission family. In this case, the configuration added must be consistent with other configurations in the emission family with respect to the criteria listed in § 1060.230.
- (2) Change a configuration already included in an emission family in a way that may affect emissions, or change any of the components you described in your application for certification. This includes production and design changes that may affect emissions any time during the equipment's lifetime.
- (3) Modify an FEL for an emission family as described in paragraph (f) of this section. Note however that component manufacturers may not modify an FEL for their products unless they submit a separate application for a new emission family.
- (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 configuration you intend to make.
- (2) Include engineering evaluations or data showing that the amended emission family complies with all applicable requirements. You may do this by showing that the original emission

data are still appropriate for showing that the amended family complies with all applicable requirements.

- (3) If the original emission data for the emission family are not appropriate to show compliance for the new or modified configuration, include new test data showing that the new or modified configuration meets the requirements of this part.
- (c) We may ask for more test data or engineering evaluations. Within 30 days after we make our request, you must provide the information or describe your plan for providing it in a timely manner.
- (d) For emission families already covered by a certificate of conformity, we will determine whether the existing certificate of conformity covers your new or modified configuration. You may ask for a hearing if we deny your request (see § 1060.820).
- (e) For emission families already covered by a certificate of conformity, you may start producing the new or modified configuration anytime after you send us your amended application and before we make a decision under paragraph (d) of this section. However, if we determine that the affected configurations do not meet applicable requirements, we will notify you to cease production of the configurations and may require you to recall the equipment at no expense to the owner. Choosing to produce equipment under this paragraph (e) is deemed to be consent to recall all equipment that we determine do not meet applicable emission standards or other requirements and to remedy the nonconformity at no expense to the owner. If you do not provide information we request under paragraph (c) of this section within 30 days after we request it, you must stop producing the new or modified equipment.
- (f) If you hold a certificate of conformity for equipment and you have certified the fuel tank that you install in the equipment, you may ask us to approve a change to your FEL after the start of production. The changed FEL may not apply to equipment you have already introduced into U.S. commerce, except as described in this paragraph (f). If we approve a changed FEL after the start of production, you must identify the date or serial number for

applying the new FEL. If you identify this by month and year, we will consider that a lowered FEL applies on the last day of the month and a raised FEL applies on the first day of the month. You may ask us to approve a change to your FEL in the following cases:

- (1) You may ask to raise your FEL for your emission family at any time. In your request, you must show that you will still be able to meet the emission standards as specified in the exhaust standard-setting part. If you amend your application by submitting new test data to include a newly added or modified fuel tank configuration, as described in paragraph (b)(3) of this section, use the appropriate FELs with corresponding production volumes to calculate your production-weighted average FEL for the model year. In all other circumstances, you must use the higher FEL for the entire family to calculate your production-weighted average FEL under subpart H of this part.
- (2) You may ask to lower the FEL for your emission family only if you have test data from production units showing that emissions are below the proposed lower FEL. The lower FEL applies only for units you produce after we approve the new FEL. Use the appropriate FELs with corresponding production volumes to calculate your production-weighted average FEL for the model year.
- (g) Component manufacturers may not change an emission family's FEL under any circumstances. Changing the FEL would require submission of a new application for certification.

§ 1060.230 How do I select emission families?

- (a) For purposes of certification, divide your product line into families of equipment (or components) that are expected to have similar emission characteristics throughout their useful life.
- (b) Group fuel lines into the same emission family if they are the same in all the following aspects:
- (1) Type of material including barrier layer.
 - (2) Production method.
- (3) Types of connectors and fittings (material, approximate wall thickness, etc.) for fuel line assemblies certified together.

- (c) Group fuel tanks (or fuel systems including fuel tanks) into the same emission family if they are the same in all the following aspects:
- (1) Type of material, including any pigments, plasticizers, UV inhibitors, or other additives that are expected to affect control of emissions.
 - (2) Production method.
- (3) Relevant characteristics of fuel cap design for fuel systems subject to diurnal emission requirements.
 - (4) Gasket material.
 - (5) Emission control strategy.
- (6) Family emission limit, if applicable.
- (d) Group other fuel-system components and equipment into the same emission family if they are the same in all the following aspects:
- (1) Emission control strategy and design.
- (2) Type of material (such as type of charcoal used in a carbon canister). This criteria does not apply for materials that are unrelated to emission control performance.
- (3) The fuel systems meet the running loss emission standard based on the same type of compliance demonstration specified in §1060.104(b), if applicable.
- (e) You may subdivide a group of equipment or components that are identical under paragraphs (b) through (d) of this section into different emission families if you show the expected emission characteristics are different during the useful life.
- (f) In unusual circumstances, you may group equipment or components that are not identical with respect to the things listed in paragraph (b) through (d) of this section into the same emission family if you show that their emission characteristics during the useful life will be similar. The provisions of this paragraph (f) do not exempt any engines or equipment from meeting all the applicable standards and requirements in subpart B of this part.
- (g) Emission families may include components used in multiple equipment categories. Such families are covered by a single certificate. For example, a single emission family may contain fuel tanks used in both Small SI equipment and Marine SI vessels.

§ 1060.235 What emission testing must I perform for my application for a certificate of conformity?

This section describes the emission testing you must perform to show compliance with the emission standards in subpart B of this part.

- (a) Test your products using the procedures and equipment specified in subpart F of this part.
- (b) Select an emission-data unit from each emission family for testing. If you are certifying with a family emission limit, you must test at least three emission-data units. In general, you must test a preproduction product that will represent actual production. However, for fuel tank permeation, you may test a tank with standardized geometry provided that it is made of the same material(s) and appropriate wall thickness. In general, the test procedures specify that components or systems be tested rather than complete equipment. For example, to certify your family of Small SI equipment, you would need to test a sample of fuel line for permeation emissions and a fuel tank for permeation emissions. Note that paragraph (e) of this section and §1060.240 allow you in certain circumstances to certify without testing an emission-data unit from the emission family. Select test components that are most likely to exceed (or have emissions nearer to) the applicable emission standards as follows:
- (1) For fuel tanks, consider the following factors associated with higher emission levels:
- (i) Smallest average wall thickness (or barrier thickness, as appropriate).
- (ii) Greatest extent of pinch welds for tanks using barrier technologies.
- (iii) Greatest relative area of gasket material, especially if gaskets are made of high-permeation materials.
- (2) For fuel lines, consider the following factors associated with higher emission levels:
- (i) Smallest average wall thickness (or barrier thickness, as appropriate).
 - (ii) Smallest inner diameter.
- (c) You may not do maintenance on emission-data units.
- (d) We may measure emissions from any of your products from the emission family, as follows:

- (1) You must supply your products to us if we choose to perform confirmatory testing.
- (2) If we measure emissions on one of your products, the results of that testing become the official emission results for the emission family. Unless we later invalidate these data, we may decide not to consider your data in determining if your emission family meets applicable requirements.
- (e) You may ask to use carryover emission data from a previous production period instead of doing new tests, but only if all the following are true:
- (1) The emission family from the previous production period differs from the current emission family only with respect to production period or other characteristics unrelated to emissions. You may also ask to add a configuration subject to § 1060.225.
- (2) The emission-data unit from the previous production period remains the appropriate emission-data unit under paragraph (b) of this section. For example, you may not carryover emission data for your family of nylon fuel tanks if you have added a thinner-walled fuel tank than was tested previously.
- (3) The data show that the emission-data unit would meet all the requirements that apply to the emission family covered by the application for certification.
- (f) We may require you to test another unit of the same or different configuration in addition to the unit(s) tested under paragraph (b) of this section
- (g) If you use an alternate test procedure under §1060.505, and later testing shows that such testing does not produce results that are equivalent to the procedures specified in this part, we may reject data you generated using the alternate procedure.

§ 1060.240 How do I demonstrate that my emission family complies with evaporative emission standards?

- (a) For purposes of certification, your emission family is considered in compliance with an evaporative emission standard in subpart B of this part if you do either of the following:
- (1) You have test results showing a certified emission level from the fuel

- tank or fuel line (as applicable) in the family are at or below the applicable standard.
- (2) You comply with design specifications as specified in paragraphs (d) through (f) of this section.
- (b) Your emission family is deemed not to comply if any fuel tank or fuel line representing that family has an official emission result above the standard
- (c) Round each official emission result to the same number of decimal places as the emission standard.
- (d) You may demonstrate for certification that your emission family complies with the fuel tank permeation standards specified in §1060.103 with any of the following control technologies:
- (1) A coextruded high-density polyethylene fuel tank with a continuous ethylene vinyl alcohol barrier layer (with not more than 40 molar percent ethylene) making up at least 2 percent of the fuel tank's overall wall thickness with any of the following gasket and fuel-cap characteristics:
- (i) No nonmetal gaskets or fuel caps.
- (ii) All nonmetal gaskets and fuel caps made from low-permeability materials.
- (iii) Nonmetal gaskets and fuel caps that are not made from low-permeability materials up to the following limits:
- (A) Gaskets with a total exposed surface area less than 0.25 percent of the total inside surface area of the fuel tank. For example, a fuel tank with an inside surface area of 0.40 square meters may use high-permeation gasket material representing a surface area of up to 1,000 mm² (0.25% \times $^{1}\!/_{100} \times$ 0.40 m² \times 1,000,000 mm²/m²). Determine surface area based on the amount of material exposed to liquid fuel.
- (B) Fuel caps directly mounted to the fuel tank with the surface area of the fuel cap less than 3.0 percent of the total inside surface area of the fuel tank. Use the smallest inside cross-sectional area of the opening on which the cap is mounted as the fuel cap's surface area
- (2) A metal fuel tank with the gasket and fuel-cap characteristics meeting the specifications in paragraphs (d)(1)(i) through (iii) of this section.

- (e) You may demonstrate for certification that your emission family complies with the diurnal emission standards specified in §1060.105 with any of the following control technologies:
- (1) A Marine SI fuel tank sealed up to a positive pressure of 7.0 kPa (1.0 psig); however, the fuel tank may contain air inlets that open when there is a vacuum pressure inside the tank.
- (2) A Marine SI fuel tank equipped with a passively purged carbon canister that meets the requirements of this paragraph (e)(2). The carbon must adsorb no more than 0.5 grams of water per gram of carbon at 90% relative humidity and a temperature of 25±5 °C. The carbon granules must have a minimum mean diameter of 3.1 mm based on the procedures in ASTM D2862 (incorporated by reference in §1060.810). The carbon must also pass a dust attrition test based on ASTM D3802 (incorporated by reference in §1060.810), except that hardness is defined as the ratio of mean particle diameter before and after the test and the procedure must involve twenty ½-inch steel balls and ten 3/4-inch steel balls. Use good engineering judgment in the structural design of the carbon canister. The canister must have a volume compensator or some other device to prevent the carbon pellets from moving within the canister as a result of vibration or changing temperature. The canister must have a minimum working capacity as follows:
- (i) You may use the measurement procedures specified by the California Air Resources Board in Attachment 1 to TP-902 to show that canister working capacity is least 3.6 grams of vapor storage capacity per gallon of nominal fuel tank capacity (or 1.4 grams of vapor storage capacity per gallon of nominal fuel tank capacity for fuel tanks used in nontrailerable boats). TP-902 is part of Final Regulation Order, Article 1, Chapter 15, Division 3, Title 13, California Code of Regulations, July 26, 2004 as adopted by the California Air Resources Board (incorporated by reference in §1060.810).
- (ii) You may produce canisters with a minimum carbon volume of 0.040 liters per gallon of nominal fuel tank capacity (or 0.016 liters per gallon for fuel tanks used in nontrailerable boats).

- The carbon canister must have a minimum effective length-to-diameter ratio of 3.5 and the vapor flow must be directed with the intent of using the whole carbon bed. The carbon must have a minimum carbon working capacity of 90 grams per liter.
- (f) We may establish additional design certification options where we find that new test data demonstrate that the use of a different technology design will ensure compliance with the applicable emission standards.
- (g) You may not establish a family emission limit below the emission standard for components certified based on design specifications under this section even if actual emission rates are much lower.

§ 1060.250 What records must I keep?

- (a) Organize and maintain the following records:
- (1) A copy of all applications and any summary information you send us.
- (2) Any of the information we specify in §1060.205 that you were not required to include in your application.
- (3) A detailed history of each emission-data unit. For each emission data unit, include all of the following:
- (i) The emission-data unit's construction, including its origin and buildup, steps you took to ensure that it represents production equipment, any components you built specially for it, and all the components you include in your application for certification.
- (ii) All your emission tests, including documentation on routine and standard tests, and the date and purpose of each test.
- (iii) All tests to diagnose emission control performance, giving the date and time of each and the reasons for the test.
 - (iv) Any other significant events.
- (4) Annual production figures for each emission family divided by assembly plant.
- (5) Keep a list of equipment identification numbers for all the equipment you produce under each certificate of conformity.
- (b) Keep required data from routine emission tests (such as temperature measurements) for one year after we issue the associated certificate of conformity. Keep all other information

specified in paragraph (a) of this section for eight years after we issue your certificate.

(c) Store these records in any format and on any media as long as you can promptly send us organized, written records in English if we ask for them. You must keep these records readily available. We may review them at any time

§ 1060.255 What decisions may EPA make regarding my certificate of conformity?

- (a) If we determine your application is complete and shows that the emission family meets all the requirements of this part and the Clean Air Act, we will issue a certificate of conformity for your emission family for that production period. We may make the approval subject to additional conditions.
- (b) We may deny your application for certification if we determine that your emission family fails to comply with emission standards or other requirements of this part or the Clean Air Act. We will base our decision on all available information. If we deny your application, we will explain why in writing.
- (c) In addition, we may deny your application or suspend or revoke your certificate if you do any of the following:
- (1) Refuse to comply with any testing or reporting requirements.
- (2) Submit false or incomplete information (paragraph (e) of this section applies if this is fraudulent).
 - (3) Render inaccurate any test data.
- (4) Deny us from completing authorized activities despite our presenting a warrant or court order (see 40 CFR 1068.20). This includes a failure to provide reasonable assistance.
- (5) Produce equipment or components for importation into the United States at a location where local law prohibits us from carrying out authorized activities.
- (6) Fail to supply requested information or amend your application to include all equipment or components being produced.
- (7) Take any action that otherwise circumvents the intent of the Clean Air Act or this part.

- (d) We may void your certificate if you do not keep the records we require or do not give us information when we ask for it.
- (e) We may void your certificate if we find that you intentionally submitted false or incomplete information.
- (f) If we deny your application or suspend, revoke, or void your certificate, you may ask for a hearing (see § 1060.820).

Subpart D—Production Verification Testing

§ 1060.301 Manufacturer testing.

- (a) Using good engineering judgment, you must evaluate production samples to verify that equipment or components you produce are as specified in the certificate of conformity. This may involve testing using certification procedures or other measurements.
- (b) You must give us records to document your evaluation if we ask for them.

§ 1060.310 Supplying products to EPA for testing.

Upon our request, you must supply a reasonable number of production samples to us for verification testing.

Subpart E—In-use Testing

§1060.401 General Provisions.

We may perform in-use testing of any equipment or fuel-system components subject to the standards of this part.

Subpart F—Test Procedures

§ 1060.501 General testing provisions.

- (a) This subpart is addressed to you as a certifying manufacturer but it applies equally to anyone who does testing for you.
- (b) Unless we specify otherwise, the terms "procedures" and "test procedures" in this part include all aspects of testing, including the equipment specifications, calibrations, calculations, and other protocols and procedural specifications needed to measure emissions.
- (c) The specification for gasoline to be used for testing is given in 40 CFR

1065.710. Use the grade of gasoline specified for general testing. For testing specified in this part that requires a blend of gasoline and ethanol, blend this grade of gasoline with fuel-grade ethanol meeting the specifications of ASTM D4806 (incorporated by reference in §1060.810). You do not need to measure the ethanol concentration of such blended fuels and may instead calculate the blended composition by assuming that the ethanol is pure and mixes perfectly with the base fuel. For example, if you mix 10.0 liters of fuelgrade ethanol with 90.0 liters of gasoline, you may assume the resulting mixture is 10.0 percent ethanol. You may use more or less pure ethanol if you can demonstrate that it will not affect your ability to demonstrate compliance with the applicable emission standards. Note that unless we specify otherwise, any references to gasoline-ethanol mixtures containing a specified ethanol concentration means mixtures meeting the provisions of this paragraph (c).

- (d) Accuracy and precision of all temperature measurements must be $\pm 1.0~^{\circ}$ C or better. If you use multiple sensors to measure differences in temperature, calibrate the sensors so they will be within 0.5 $^{\circ}$ C of each other when they are in thermal equilibrium at a point within the range of test temperatures (use the starting temperature in Table 1 to §1060.525 unless this is not feasible).
- (e) Accuracy and precision of mass balances must be sufficient to ensure accuracy and precision of two percent or better for emission measurements for products at the maximum level allowed by the standard. The readability of the display may not be coarser than half of the required accuracy and precision. Examples are shown in the following table for a digital readout:

	Example #1	Example #2	Example #3
Applicable standard Internal surface area Length of test Maximum allowable mass change Required accuracy and precision Required readability	1.15 m ²	0.47 m ²	0.015 m². 14.1 days. 3.173 g. ±0.0635 g or better.

 $[73~{\rm FR}~59298,~{\rm Oct.}~8,~2008,~{\rm as~amended~at}~74~{\rm FR}~8427,~{\rm Feb.}~24,~2009]$

§ 1060.505 Other procedures.

- (a) Your testing. The procedures in this part apply for all testing you do to show compliance with emission standards, with certain exceptions listed in this section.
- (b) Our testing. These procedures generally apply for testing that we do to determine if your equipment complies with applicable emission standards. We may perform other testing as allowed by the Clean Air Act.
- (c) Exceptions. We may allow or require you to use procedures other than those specified in this part in the following cases:
- (1) You may request to use special procedures if your equipment cannot be tested using the specified procedures. We will approve your request if we determine that it would produce emission measurements that represent in-use operation and we determine that it can

be used to show compliance with the requirements of the standard-setting part.

- (2) You may ask to use emission data collected using other procedures, such as those of the California Air Resources Board or the International Organization for Standardization. We will approve this only if you show us that using these other procedures does not affect your ability to show compliance with the applicable emission standards. This generally requires emission levels to be far enough below the applicable emission standards so any test differences do not affect your ability to state unconditionally that your equipment will meet all applicable emission standards when tested using the specified test procedures.
- (3) You may request to use alternate procedures that are equivalent to allowed procedures or are more accurate

or more precise than allowed procedures. See 40 CFR 1065.12 for a description of the information that is generally required to show that an alternate test procedure is equivalent.

- (4) The test procedures are specified for gasoline-fueled equipment. If your equipment will use another volatile liquid fuel instead of gasoline, use a test fuel that is representative of the fuel that will be used with the equipment in use. You may ask us to approve other changes to the test procedures to reflect the effects of using a fuel other than gasoline.
- (d) Approval. If we require you to request approval to use other procedures under paragraph (c) of this section, you may not use them until we approve your request.

§ 1060.510 How do I test EPA Low-Emission Fuel Lines for permeation emissions?

For EPA Low-Emission Fuel Lines, measure emissions according to SAE J2260, which is incorporated by reference in §1060.810.

[74 FR 8427, Feb. 24, 2009]

§ 1060.515 How do I test EPA Nonroad Fuel Lines and EPA Cold-Weather Fuel Lines for permeation emissions?

Measure emission as follows for EPA Nonroad Fuel Lines and EPA Cold-Weather Fuel Lines:

- (a) Prior to permeation testing, use good engineering judgment to precondition the fuel line by filling it with the fuel specified in this paragraph (a), sealing the openings, and soaking it for at least four weeks at 43 ± 5 °C or eight weeks at 23 ± 5 °C.
- (1) For EPA Nonroad Fuel Lines, use Fuel CE10, which is Fuel C as specified in ASTM D471 (incorporated by reference in \$1060.810) blended with ethanol such that the blended fuel has 10.0 ± 1.0 percent ethanol by volume.
- (2) For EPA Cold-Weather Fuel Lines, use gasoline blended with ethanol such that the blended fuel has 10.0 ± 1.0 percent ethanol by volume.
- (b) Drain the fuel line and refill it immediately with the fuel specified in paragraph (a) of this section. Be careful not to spill any fuel.

- (c) Measure fuel line permeation emissions using the equipment and procedures for weight-loss testing specified in SAE J30 or SAE J1527 (incorporated by reference in §1060.810). Start the measurement procedure within 8 hours after draining and refilling the fuel line. Perform the emission test over a sampling period of 14 days. Determine your final emission result based on the highest measured valued over the 14-day period.
- (d) Use good engineering judgment to test fuel line segments with short length or narrow inner diameter. For example, size the fuel reservoir appropriately for the tested fuel line and take steps to eliminate air bubbles from narrow-diameter fuel lines.

[73 FR 59298, Oct. 8, 2008, as amended at 74 FR 8427, Feb. 24, 2009; 75 FR 23027, Apr. 30, 2010]

§ 1060.520 How do I test fuel tanks for permeation emissions?

Measure permeation emissions by weighing a sealed fuel tank before and after a temperature-controlled soak.

- (a) Preconditioning durability testing. Take the following steps before an emission test, in any order, if your emission control technology involves surface treatment or other post-processing treatments such as an epoxy coating:
- (1) Pressure cycling. Perform a pressure test by sealing the tank and cycling it between +13.8 and -1.7 kPa (+2.0 and -0.5 psig) for 10,000 cycles at a rate of 60 seconds per cycle. The purpose of this test is to represent environmental wall stresses caused by pressure changes and other factors (such as vibration or thermal expansion). If your tank cannot be tested using the pressure cycles specified by this paragraph (a)(1), you may ask to use special test procedures under §1060.505.
- (2) UV exposure. Perform a sunlight-exposure test by exposing the tank to an ultraviolet light of at least 24 W/m² (0.40 W-hr/m²/min) on the tank surface for at least 450 hours. Alternatively, the fuel tank may be exposed to direct natural sunlight for an equivalent period of time as long as you ensure that the tank is exposed to at least 450 daylight hours.
- (3) Slosh testing. Perform a slosh test by filling the tank to 40-50 percent of

its capacity with the fuel specified in paragraph (e) of this section and rocking it at a rate of 15 cycles per minute until you reach one million total cycles. Use an angle deviation of $+15^{\circ}$ to -15° from level.

- (4) Cap testing. Perform durability cycles on fuel caps intended for use with handheld equipment by putting the fuel cap on and taking it off 300 times. Tighten the fuel cap each time in a way that represents the typical in-use experience.
- (b) Preconditioning fuel soak. Take the following steps before an emission test:
- (1) Fill the tank with the fuel specified in paragraph (e) of this section, seal it, and allow it to soak at 28 ±5 °C for at least 20 weeks. Alternatively, the tank may be soaked for at least 10 weeks at 43±5 °C. You may count the time of the preconditioning steps in paragraph (a) of this section as part of the preconditioning fuel soak as long as the ambient temperature remains within the specified temperature range and the fuel tank is at least 40 percent full; you may add or replace fuel as needed to conduct the specified durability procedures.
- (2) Empty the fuel tank and immediately refill it with the specified test fuel to its nominal capacity. Be careful not to spill any fuel.
 - (3) [Reserved]
- (4) Allow the tank and its contents to equilibrate to the temperatures specified in paragraph (d)(7) of this section. Seal the fuel tank as described in paragraph (b)(5) of this section once the fuel temperatures are stabilized at the test temperature. You must seal the tank no more than eight hours after refueling. Until the fuel tank is sealed, take steps to minimize the vapor losses from the fuel tank, such as keeping the fuel cap loose on the fuel inlet or routing vapors through a vent hose.
 - (5) Seal the fuel tank as follows:
- (i) If fuel tanks are designed for use with a filler neck such that the fuel cap is not directly mounted on the fuel tank, you may seal the fuel inlet with a nonpermeable covering.
- (ii) If fuel tanks are designed with fuel caps directly mounted on the fuel tank, take one of the following approaches:

- (A) Use a production fuel cap expected to have permeation emissions at least as high as the highest-emitting fuel cap that you expect to be used with fuel tanks from the emission family. It would generally be appropriate to consider an HDPE fuel cap with a nitrile rubber seal to be worst-case.
- (B) You may seal the fuel inlet with a nonpermeable covering if you separately account for permeation emissions from the fuel cap. This may involve a separate measurement of permeation emissions from a worst-case fuel cap as described in \$1060.521. This may also involve specifying a worst-case Family Emission Limit based on separately certified fuel caps as described in \$1060.103(e).
- (C) If you use or specify a fuel gasket made of low-permeability material, you may seal the fuel inlet with a non-permeable covering and calculate an emission rate for the complete fuel tank using a default value of 30 g/m²/day for the fuel cap (or 50 g/m²/day for testing at 40 °C). Use the smallest inside cross-sectional area of the opening on which the cap is mounted as the fuel cap's surface area.
- (iii) Openings that are not normally sealed on the fuel tank (such as hose-connection fittings and vents in fuel caps) may be sealed using nonpermeable fittings such as metal or fluoropolymer plugs.
- (iv) Openings for petcocks that are designed for draining fuel may be sealed using nonpermeable fittings such as metal or fluoropolymer plugs.
- (v) Openings for grommets may be sealed using nonpermeable fittings such as metal or fluoropolymer plugs.
- (vi) Rather than sealing a fuel tank with nonpermeable fittings, you may produce a fuel tank for testing without machining or stamping those holes.
- (c) Reference tank. A reference tank is required to correct for buoyancy effects that may occur during testing. Prepare the reference tank as follows:
- (1) Obtain a second tank that is identical to the test tank. You may not use a tank that has previously contained fuel or any other contents that might affect its mass stability.
- (2) Fill the reference tank with enough glass beads (or other inert material) so the mass of the reference

tank is approximately the same as the test tank when filled with fuel. Considering the performance characteristics of your balance, use good engineering judgment to determine how similar the mass of the reference tank needs to be to the mass of the test tank.

- (3) Ensure that the inert material is dry.
 - (4) Seal the tank.
- (d) *Permeation test run*. To run the test, take the following steps after preconditioning:
- (1) Determine the fuel tank's internal surface area in square-meters, accurate to at least three significant figures. You may use less accurate estimates of the surface area if you make sure not to overestimate the surface area.
- (2) Weigh the sealed test tank and record the weight. Place the reference tank on the balance and tare it so it reads zero. Place the sealed test tank on the balance and record the difference between the test tank and the reference tank. This value is $M_{\rm o}$. Take this measurement directly after sealing the test tank as specified in paragraphs (b)(4) and (5) of this section.
- (3) Carefully place the tank within a temperature-controlled room or enclosure. Do not spill or add any fuel.
- (4) Close the room or enclosure as needed to control temperatures and record the time. However, you may need to take steps to prevent an accumulation of hydrocarbon vapors in the room or enclosure that might affect the degree to which fuel permeates through the fuel tank. This might simply involve passive ventilation to allow fresh air exchanges.
- (5) Ensure that the measured temperature in the room or enclosure stays within the temperatures specified in paragraph (d)(6) of this section.
- (6) Leave the tank in the room or enclosure for the duration of the test run.
- (7) Hold the temperature of the room or enclosure at 28 ± 2 °C; measure and record the temperature at least daily. You may alternatively hold the temperature of the room or enclosure at 40 ± 2 °C to demonstrate compliance with the alternative standards specified in $\S 1060.103(b)$.
- (8) Measure weight loss daily by retaring the balance using the reference tank and weighing the sealed

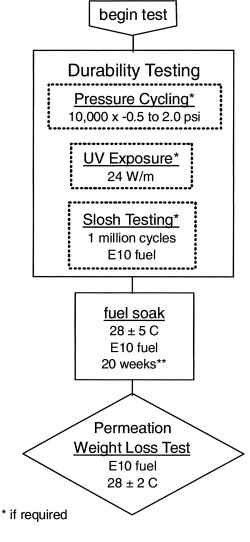
test tank. Calculate the cumulative weight loss in grams for each measurement. Calculate the coefficient of determination, $\rm r^2$, based on a linear plot of cumulative weight loss vs. test days. Use the equation in 40 CFR 1065.602(k), with cumulative weight loss represented by $\rm y_i$ and cumulative time represented by $\rm y_{ref}$. The daily measurements must be at approximately the same time each day. You may omit up to two daily measurements in any seven-day period. Test for ten full days, then determine when to stop testing as follows:

- (i) You may stop testing after the measurement on the tenth day if r^2 is at or above 0.95 or if the measured value is less than 50 percent of the applicable standard. (Note that if a Family Emission Limit applies for the family, it is considered to be the applicable standard for that family.) This means that if you stop testing with an r^2 below 0.95, you may not use the data to show compliance with a Family Emission Limit less than twice the measured value.
- (ii) If after ten days of testing your r² value is below 0.95 and your measured value is more than 50 percent of the applicable standard, continue testing for a total of 20 days or until r² is at or above 0.95. If r² is not at or above 0.95 within 20 days of testing, discontinue the test and precondition the fuel tank further until it has stabilized emission levels, then repeat the testing.
- (9) Record the difference in mass between the reference tank and the test tank for each measurement. This value is M_i , where i is a counter representing the number of days elapsed. Subtract M_i from M_o and divide the difference by the internal surface area of the fuel tank. Divide this g/m2 value by the number of test days (using at least two decimal places) to calculate the emission rate in g/m²/day. Example: If a tank with an internal surface area of 0.720 m² weighed 1.31 grams less than the reference tank at the beginning of the test and weighed 9.86 grams less than the reference tank after soaking for 10.03 days, the emission rate would he-
- $((-1.31 \text{ g}) (-9.82 \text{ g}))/0.720 \text{ m}^2/10.03$ $days = 1.1784 \text{ g/m}^2/day$

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- (10) Determine your final emission result based on the cumulative weight loss measured on the final day of testing. Round this result to the same number of decimal places as the emission standard.
- (e) Fuel specifications. Use gasoline blended with ethanol such that the
- blended fuel has 10.0 ±1.0 percent ethanol by volume as specified in §1060.501. As an alternative, you may use Fuel CE10, as described in §1060.515(a)(1).
- (f) Flow chart. The following figure presents a flow chart for the permeation testing described in this section:

Figure 1 to §1060.520 — Fuel Tank Permeation Test Procedures



** The length of "soak" during durability testing may be included in the fuel soak period provided that fuel remains in the tank. Soak periods can be shortened to 10 weeks if performed at 43 ± 5 C

[73 FR 59298, Oct. 8, 2008, as amended at 75 FR 23027, Apr. 30, 2010]

§ 1060.521 How do I test fuel caps for permeation emissions?

If you measure a fuel tank's permeation emissions with a nonpermeable covering in place of the fuel cap under §1060.520(b)(5)(ii)(B), you must separately measure permeation emissions from a fuel cap. You may show that your fuel tank and fuel cap meet emission standards by certifying them separately or by combining the separate measurements into a single emission rate based on the relative surface areas of the fuel tank and fuel cap. However, you may not combine these emission measurements if you test the fuel cap at a nominal temperature of 28°C and you test the fuel tank at 40 °C. Measure the fuel cap's permeation emissions as follows:

- (a) Select a fuel cap expected to have permeation emissions at least as high as the highest-emitting fuel cap that you expect to be used with fuel tanks from the emission family. Include a gasket that represents production models. If the fuel cap includes vent paths, seal these vents as follows:
- (1) If the vent path is through grooves in the gasket, you may use an-

other gasket with no vent grooves if it is otherwise the same as a production gasket.

- (2) If the vent path is through the cap, seal any vents for testing.
- (b) Attach the fuel cap to a fuel tank with a capacity of at least one liter made of metal or some other impermeable material.
- (c) Use the procedures specified in §1060.520 to measure permeation emissions. Calculate emission rates using the smallest inside cross sectional area of the opening on which the cap is mounted as the fuel cap's surface area.

§ 1060.525 How do I test fuel systems for diurnal emissions?

Use the procedures of this section to determine whether your fuel tanks meet diurnal emission standards as specified in §1060.105.

- (a) Except as specified in paragraph (c) of this section, use the following procedure to measure diurnal emissions:
- (1) Diurnal measurements are based on a representative temperature cycle. For marine fuel tanks, the temperature cycle specifies fuel temperatures rather than ambient temperatures. The applicable temperature cycle is indicated in the following table:

TABLE 1 TO § 1060.525—DIURNAL TEMPERATURE PROFILES FOR FUEL TANKS

Time (hours)	Ambient Tempera- ture Profile for Land-based Fuel Tanks (°C)	General Fuel Temperature Profile for Installed Marine Fuel Tanks (°C)	Fuel Temperature Profile for Marine Fuel Tanks Installed in Nontrailerable Boats (°C)
0	22.2	25.6	27.6
1	22.5	25.7	27.6
2	24.2	26.5	27.9
3	26.8	27.9	28.5
4	29.6	29.2	29.0
5	31.9	30.4	29.5
6	33.9	31.4	29.9
7	35.1	32.0	30.1
8	35.4	32.2	30.2
9	35.6	32.2	30.2
10	35.3	32.1	30.2
11	34.5	31.7	30.0
12	33.2	31.0	29.7
13	31.4	30.2	29.4
14	29.7	29.3	29.1
15	28.2	28.6	28.8
16	27.2	28.0	28.5
17	26.1	27.5	28.3
18	25.1	27.0	28.1
19	24.3	26.6	28.0
20	23.7	26.3	27.9
21	23.3	26.1	27.8
22	22.9	25.9	27.7
23	22.6	25.7	27.6

TABLE 1 TO § 1060.525—DIURNAL TEMPERATURE PROFILES FOR FUEL TANKS—Continued

Time (hours)	Ambient Tempera- ture Profile for Land-based Fuel Tanks (°C)	General Fuel Temperature Profile for Installed Marine Fuel Tanks (°C)	Fuel Temperature Profile for Marine Fuel Tanks Installed in Nontrailerable Boats (°C)
24	22.2	25.6	27.6

- (2) Fill the fuel tank to 40 percent of nominal capacity with the gasoline specified in 40 CFR 1065.710 for general testing.
- (3) Install a vapor line from any vent ports that would not be sealed in the final in-use configuration. Use a length of vapor line representing the largest inside diameter and shortest length that would be expected with the range of in-use installations for the emission family.
- (4) Stabilize the fuel tank at the starting temperature of the applicable temperature profile from paragraph (a)(1) of this section. For sealed fuel systems, replace the fuel cap once the fuel reaches equilibrium at the appropriate starting temperature.
- (5) If the fuel tank is equipped with a carbon canister, load the canister with butane or gasoline vapors to its canister working capacity as specified in §1060.240(e)(2)(i) and attach it to the fuel tank in a way that represents a typical in-use configuration.
- (6) Place the fuel tank with the carbon canister and vent line in a SHED meeting the specifications of 40 CFR 86.107–96(a)(1). Follow the applicable temperature trace from paragraph (a)(1) of this section for one 24-hour period. You need not measure emissions during this stabilization step.
- (7) As soon as possible after the stabilization in paragraph (a)(6) of this section, purge the SHED and follow the applicable temperature trace from paragraph (a)(1) of this section for three consecutive 24-hour periods. Start measuring emissions when you start the temperature profile. The end of the first, second, and third emission sampling periods must occur 1440 ± 6 , 2880 ± 6 , and 4320 ± 6 minutes, respectively, after starting the measurement procedure. Use the highest of the three emission levels to determine whether

- your fuel tank meets the diurnal emission standard.
- (8) For emission control technologies that rely on a sealed fuel system, you may omit the stabilization step in paragraph (a)(6) of this section and the last two 24-hour periods of emission measurements in paragraph (a)(7) of this section. For purposes of this paragraph (a), sealed fuel systems include those that rely on pressure-relief valves, limiting flow orifices, bladder fuel tanks, and volume-compensating air bags.
- (b) You may subtract your fuel tank's permeation emissions from the measured diurnal emissions if the fuel tank is preconditioned with diurnal test fuel as described in §1060.520(b) or if you use good engineering judgment to otherwise establish that the fuel tank has stabilized permeation emissions. Measure permeation emissions for subtraction as specified in §1060.520(c) and (d) before measuring diurnal emissions, except that the permeation measurement must be done with diurnal test fuel at 28 ±2°C. Use appropriate units and corrections to subtract the permeation emissions from the fuel tank during the diurnal emission test. You may not subtract a greater mass of emissions under this paragraph (b) than the fuel tank would emit based on meeting the applicable emission standard for permeation.

Subpart G—Special Compliance Provisions

§ 1060.601 How do the prohibitions of 40 CFR 1068.101 apply with respect to the requirements of this part?

(a) As described in §1060.1, fuel tanks and fuel lines that are used with or intended to be used with new nonroad engines or equipment are subject to evaporative emission standards under this

part 1060. This includes portable marine fuel tanks and fuel lines and other fuel-system components associated with portable marine fuel tanks. Note that §1060.1 specifies an implementation schedule based on the date of manufacture of nonroad equipment, so new fuel tanks and fuel lines are not subject to standards under this part 1060 if they will be installed for use in equipment built before the specified dates for implementing the appropriate standards, subject to the limitations in paragraph (b) of this section. Except as specified in paragraph (f) of this section, fuel-system components that are subject to permeation or diurnal emission standards under this part 1060 must be covered by a valid certificate of conformity before being introduced into U.S. commerce to avoid violating the prohibition of 40 CFR 1068.101(a). To the extent we allow it under the exhaust standard-setting part, fuel-system components may be certified with a family emission limit higher than the specified emission standard. The provisions of this paragraph (a) do not apply to fuel caps.

- (b) New replacement fuel tanks and fuel lines must meet the requirements of this part 1060 if they are intended to be used with nonroad engines or equipment regulated under this part 1060, as follows:
- (1) Applicability of standards between January 1, 2012 and December 31, 2019. Manufacturers, distributors, retailers, and importers must clearly state on the packaging for all replacement components that could reasonably be used with nonroad engines how such components may be used consistent with the prohibition in paragraph (a) of this section. It is presumed that such components are intended for use with nonroad engines regulated under this part 1060 unless the components, or the packaging for such components, clearly identify appropriate restrictions. This requirement does not apply for components that are clearly not intended for use with fuels.
- (2) Applicability of standards after January 1, 2020. Starting January 1, 2020 it is presumed that replacement components will be used with nonroad engines regulated under this part 1060 if they can reasonably be used with such

engines. Manufacturers, distributors, retailers, and importers are therefore obligated to take reasonable steps to ensure that any uncertified components are not used to replace certified components. This would require labeling the components and may also require restricting the sales and requiring the ultimate purchaser to agree to not use the components inappropriately. This requirement does not apply for components that are clearly not intended for use with fuels.

(3) Applicability of the tampering prohibition. If a fuel tank or fuel line needing replacement was certified to meet the emission standards in this part with a family emission limit below the otherwise applicable standard, the new replacement fuel tank or fuel line must be certified to current emission standards, but need not be certified with the same or lower family emission limit to avoid violating the tampering prohibition in 40 CFR 1068.101(b)(1).

(c) [Reserved]

- (d) Manufacturers that generate or use evaporative emission credits related to Marine SI engines in 40 CFR part 1045 or Small SI engines in 40 CFR part 1054 are subject to the emission standards for which they are generating or using evaporative emission credits. These engines or equipment must therefore be covered by a valid certificate of conformity showing compliance with emission-credit provisions before being introduced into U.S. commerce to avoid violating the prohibition of 40 CFR 1068.101(a).
- (e) If there is no valid certificate of conformity for any given evaporative emission standard for new equipment, the manufacturers of the engine, equipment and fuel-system components are each liable for violations of the prohibited acts with respect to the fuel systems and fuel-system components they have introduced into U.S. commerce, including fuel systems and fuel-system components installed in engines or equipment at the time the engines or equipment are introduced into U.S. commerce.
- (f) If you manufacture fuel lines or fuel tanks that are subject to the requirements of this part as described in paragraph (a) of this section, 40 CFR 1068.101(a) does not prohibit you from

shipping your products directly to an equipment manufacturer or another manufacturer from which you have received a written commitment to be responsible for certifying the components as required under this part 1060. This includes SHED-based certification of Small SI equipment as described in §1060.105. If you ship fuel lines or fuel tanks under this paragraph (f), you must include documentation that accompanies the shipped products identifying the name and address of the company receiving shipment and stating that the fuel lines or fuel tanks are exempt under the provisions of 40 CFR 1060.601(f).

(g) If new evaporative emission standards apply in a given model year, your equipment in that model year must have fuel-system components that are certified to the new standards, except that you may continue to use up your normal inventory of earlier fuel-system components that were built before the date of the new or changed standards. For example, if your normal inventory practice is to keep on hand a one-month supply of fuel tanks based on your upcoming production schedules, and a new tier of standards starts to apply for the 2012 model year, you may order fuel tanks based on your normal inventory requirements late in the fuel tank manufacturer's 2011 model year and install those fuel tanks in your equipment, regardless of the date of installation. Also, if your model year starts before the end of the calendar year preceding new standards, you may use fuel-system components from the previous model year (or uncertified components if no standards were in place) for those units you produce before January 1 of the year that new standards apply. If emission standards do not change in a given model year, you may continue to install fuel-system components from the previous model year without restriction. You may not circumvent the provisions of 40 CFR 1068.101(a)(1) by stockpiling fuel-system components that were built before new or changed standards take effect.

(h) If equipment manufacturers hold certificates of conformity for their equipment but they use only fuel-system components that have been certified by other companies, they may satisfy their defect-reporting obligations by tracking the information described in 40 CFR 1068.501(b)(1) related to possible defects, reporting this information to the appropriate component manufacturers, and keeping these records for eight years. Such equipment manufacturers will not be considered in violation of 40 CFR 1068.101(b)(6) for failing to perform investigations, make calculations, or submit reports to EPA as specified in 40 CFR 1068.501. See §1060.5(a).

[73 FR 59298, Oct. 8, 2008, as amended at 75 FR 23027, Apr. 30, 2010]

§ 1060.605 Exemptions from evaporative emission standards.

(a) Except as specified in the exhaust standard-setting part and paragraph (b) of this section, equipment using an engine that is exempt from exhaust emission standards under the provisions in 40 CFR part 1068, subpart C or D, is also exempt from the requirements of this part 1060. For example, engines or equipment exempted from exhaust emission standards for purposes of national security do not need to meet evaporative emission standards. Also, any engine that is exempt from emission standards because it will be used solely for competition does not need to meet evaporative emission standards. Equipment that is exempt from all exhaust emission standards under the standard-setting part are also exempt from the requirements of this part 1060; however, this does not apply for engines that must meet a less stringent exhaust emission standard as a condition of the exemption.

(b) Engines produced under the replacement-engine exemption in 40 CFR 1068.240 must use fuel-system components that meet the evaporative emission standards based on the model year of the engine being replaced subject to the provisions of 40 CFR 1068.265. If no evaporative emission standards applied at that time, no requirements related to evaporative emissions apply to the new engine. Installing a replacement engine does not change the applicability of requirements for the equipment into which the replacement engine is installed.

- (c) Engines or equipment that are temporarily exempt from EPA exhaust emission standards are also exempt from the requirements of this part 1060 for the same period as the exhaust exemption.
- (d) For equipment powered by more than one engine, all the engines installed in the equipment must be exempt from all applicable EPA exhaust emission standards for the equipment to also be exempt under paragraph (a) or (b) of this section.
- (e) In unusual circumstances, we may exempt components or equipment from the requirements of this part 1060 even if the equipment is powered by one or more engines that are subject to EPA exhaust emission standards. See 40 CFR part 1068. Such exemptions will be limited to:
 - (1) Testing. See 40 CFR 1068.210.
- (2) National security. See 40 CFR
- (3) Economic hardship. See 40 CFR 1068.245 and 1068.250.
- (f) Evaporative emission standards generally apply based on the model year of the equipment, which is determined by the equipment's date of final assembly. However, in the first year of new emission standards, equipment manufacturers may apply evaporative emission standards based on the model year of the engine as shown on the engine's emission control information label. For example, for fuel tank permeation standards starting in 2012, equipment manufacturers may order a batch of 2011 model year engines for installation in 2012 model year equipment, subject to the anti-stockpiling provisions of 40 CFR 1068.105(a). The equipment with the 2011 model year engines would not need to meet fuel tank permeation standards as long as the equipment is fully assembled by December 31, 2012.

§ 1060.640 What special provisions apply to branded equipment?

The following provisions apply if you identify the name and trademark of another company instead of your own on your emission control information label for equipment, as provided by §§ 1060.135 and 1060.137:

(a) You must have a contractual agreement with the other company

that obligates that company to take the following steps:

- (1) Meet the emission warranty requirements that apply under §1060.120. This may involve a separate agreement involving reimbursement of warranty-related expenses.
- (2) Report all warranty-related information to the certificate holder.
- (b) In your application for certification, identify the company whose trademark you will use and describe the arrangements you have made to meet your requirements under this section.
- (c) You remain responsible for meeting all the requirements of this chapter, including warranty and defect-reporting provisions.

Subpart H—Averaging, Banking, and Trading Provisions

§ 1060.701 Applicability.

- (a) You are allowed to comply with the emission standards in this part with evaporative emission credits only if the exhaust standard-setting part explicitly allows it for evaporative emissions.
- (b) The following exhaust standardsetting parts allow some use of evaporative emission credits:
- (1) 40 CFR part 1045 for marine vessels.
- (2) 40 CFR part 1051 for recreational vehicles.
- (3) 40 CFR part 1054 for Small SI equipment.
- (c) As specified in 40 CFR part 1048, there is no allowance to generate or use emission credits with Large SI equipment.

§ 1060.705 How do I certify components to an emission level other than the standard under this part or use such components in my equipment?

As specified in this section, a fuel-system component may be certified to a family emission limit (FEL) instead of the otherwise applicable emission standard. Note that the exhaust standard-setting part may apply maximum values for an FEL (i.e., FEL caps).

(a) Requirements for certifying component manufacturers. See subpart C of this part for instructions regarding the

general requirements for certifying components.

- (1) When you submit your application for certification, indicate the FEL to which your components will be certified. This FEL will serve as the applicable standard for your component, and the equipment that uses the component. For example, when the regulations of this part use the phrase "demonstrate compliance with the applicable emission standard" it will mean "demonstrate compliance with the FEL" for your component.
- (2) You may not change the FEL for an emission family. To specify a different FEL for your components, you must send a new application for certification for a new emission family.
- (3) Unless your FEL is below all emission standards that could potentially apply, you must ensure that all equipment manufacturers that will use your component are aware of the limitations regarding the conditions under which they may use your component.
- (4) It is your responsibility to read the instructions relative to emissioncredit provisions in the standard-setting parts identified in §1060.1.
- (b) Requirements for equipment manufacturers. See subpart C of this part for instructions regarding your ability to rely on the component manufacturer's certificate.
- (1) The FEL of the component will serve as the applicable standard for your equipment.
- (2) You may not specify more than one FEL for an emission family at one time; however, you may change the FEL during the model year as described in §1060.225(f).
- (3) If the FEL is above the emission standard you must ensure that the exhaust standard-setting part allows you to use evaporative emission credits to comply with emission standards and that you will have an adequate source of evaporative emission credits. You must certify your equipment as specified in §1060.201 and the rest of subpart C of this part.

Subpart I—Definitions and Other Reference Information

§ 1060.801 What definitions apply to this part?

The following definitions apply to this part. The definitions apply to all subparts unless we note otherwise. All undefined terms have the meaning the Clean Air Act gives to them. The definitions follow:

Accuracy and precision means the sum of accuracy and repeatability, as defined in 40 CFR 1065.1001. For example, if a measurement device is determined to have an accuracy of $\pm 1\%$ and a repeatability of $\pm 2\%$, then its accuracy and precision would be $\pm 3\%$.

Adjustable parameter means any device, system, or element of design that someone can adjust and that, if adjusted, may affect emissions. You may ask us to exclude a parameter if you show us that it will not be adjusted in use in a way that affects emissions.

Applicable emission standard or applicable standard means an emission standard to which a fuel-system component is subject. Additionally, if a fuel-system component has been or is being certified to another standard or FEL, applicable emission standard means the FEL or other standard to which the fuel-system component has been or is being certified. This definition does not apply to subpart H of this part.

Canister working capacity means the measured amount of hydrocarbon vapor that can be stored in a canister as specified in § 1060.240(e)(2)(i).

Carbon working capacity means the measured amount of hydrocarbon vapor that can be stored in a given volume of carbon when tested according to ASTM D5228 (incorporated by reference in §1060.810). See §1060.240(e)(2)(ii).

Certification means relating to the process of obtaining a certificate of conformity for an emission family that complies with the emission standards and requirements in this part.

Certified emission level means the highest official emission result in an emission family.

Clean Air Act means the Clean Air Act, as amended, 42 U.S.C. 7401–7671q.

Cold-weather equipment is limited to the following types of handheld equipment: Chainsaws, cut-off saws, clearing saws, brush cutters with engines at or above 40cc, commercial earth and wood drills, and ice augers. This includes earth augers if they are also marketed as ice augers.

Configuration means a unique combination of hardware (material, geometry, and size) and calibration within an emission family. Units within a single configuration differ only with respect to normal production variability.

Date of manufacture, means one of the following with respect to equipment:

- (1) For outboard engines with undercowl fuel tanks and for vessels equipped with outboard engines and installed fuel tanks, date of manufacture means the date on which the fuel tank is installed.
- (2) For all other equipment, date of manufacture has the meaning given in 40 CFR 1068.30.

Days means calendar days unless otherwise specified. For example, when we specify working days we mean calendar days, excluding weekends and U.S. national holidays.

Designated Compliance Officer means the Manager, Heavy-Duty and Nonroad Engine Group (6405-J), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

Detachable fuel line means a fuel line or fuel line assembly intended to be used with a portable nonroad fuel tank and which is connected by special fittings to the fuel tank and/or engine for easy disassembly. Fuel lines that require a wrench or other tools to disconnect are not considered detachable fuel lines. Fuel lines that are labeled or marketed as USCG Type B1 fuel line as specified in 33 CFR 183.540 are not considered detachable fuel lines if they are sold to the ultimate purchaser without quick-connect fittings or similar hardware.

Diurnal emissions means evaporative emissions that occur as a result of venting fuel tank vapors during daily temperature changes while the engine is not operating.

Effective length-to-diameter ratio means the mean vapor path length of a carbon canister divided by the effective

diameter of that vapor path. The effective diameter is the diameter of a circle with the same cross-sectional area as the average cross-sectional area of the carbon canister's vapor path.

Emission control system means any device, system, or element of design that controls or reduces the regulated evaporative emissions from a piece of nonroad equipment.

Emission-data unit means a fuel line, fuel tank, fuel system, or fuel-system component that is tested for certification. This includes components tested by EPA.

Emission family has the meaning given in § 1060.230.

Emission-related maintenance means maintenance that substantially affects emissions or is likely to substantially affect emission deterioration.

Equipment means vehicles, marine vessels, and other types of nonroad equipment that are subject to this part's requirements.

Evaporative means relating to fuel emissions that result from permeation of fuel through the fuel-system materials or from ventilation of the fuel system.

Exhaust standard-setting part means the part in the Code of Federal Regulations that contains exhaust emission standards for a particular piece of equipment (or the engine in that piece of equipment). For example, the exhaust standard-setting part for off-highway motorcycles is 40 CFR part 1051. Exhaust standard-setting parts may include evaporative emission requirements or describe how the requirements of this part 1060 apply.

Exposed gasket surface area means the surface area of the gasket inside the fuel tank that is exposed to fuel or fuel vapor. For the purposes of calculating exposed surface area of a gasket, the thickness of the gasket and the outside dimension of the opening being sealed are used. Gasket overhang into the fuel tank should be ignored for the purpose of this calculation.

Family emission limit (FEL) means an emission level declared by the manufacturer to serve in place of an otherwise applicable emission standard under an ABT program specified by the exhaust standard-setting part. The

family emission limit must be expressed to the same number of decimal places as the emission standard it replaces. The family emission limit serves as the emission standard for the emission family with respect to all required testing.

Fuel CE10 has the meaning given in \$1060.515(a).

Fuel line means hoses or tubing designed to contain liquid fuel. The exhaust standard-setting part may further specify which types of hoses and tubing are subject to the standards of this part.

Fuel system means all components involved in transporting, metering, and mixing the fuel from the fuel tank to the combustion chamber(s), including the fuel tank, fuel tank cap, fuel pump, fuel filters, fuel lines, carburetor or fuel-injection components, and all fuel-system vents. In the case where the fuel tank cap or other components (excluding fuel lines) are directly mounted on the fuel tank, they are considered to be a part of the fuel tank.

Fuel type means a general category of fuels such as gasoline or natural gas. There can be multiple grades within a single fuel type, such as premium gasoline, regular gasoline, or gasoline with 10 percent ethanol.

Gasoline means one of the following:

- (1) For in-use fuels, gasoline means fuel that is commonly and commercially know as gasoline, including ethanol blends.
- (2) For testing, gasoline has the meaning given in subpart F of this part.

Good engineering judgment means judgments made consistent with generally accepted scientific and engineering principles and all available relevant information. See 40 CFR 1068.5 for the administrative process we use to evaluate good engineering judgment.

High-permeability material means any nonmetal material that does not qualify as low-permeability material.

Installed marine fuel line means a fuel line designed for delivering fuel to a Marine SI engine that does not meet the definition of portable marine fuel line.

Installed marine fuel tank means a fuel tank designed for delivering fuel to a

Marine SI engine that does not meet the definition of portable marine fuel tanks.

Large SI means relating to engines that are subject to evaporative emission standards in 40 CFR part 1048.

Low-permeability material means, for gaskets, a material with permeation emission rates at or below 10 (g-mm)/ m²/day when measured according to SAE J2659 (incorporated by reference in §1060.810), where the test temperature is 23 °C, the test fuel is Fuel CE10, and testing immediately follows a fourweek preconditioning soak with the test fuel.

Manufacture means the physical and engineering process of designing, constructing, and assembling an engine, piece of nonroad equipment, or fuel-system components subject to the requirements of this part.

Manufacturer has the meaning given in section 216(1) of the Clean Air Act (42 U.S.C. 7550(1)). In general, this term includes:

- (1) Any person who manufactures an engine or piece of nonroad equipment for sale in the United States or otherwise introduces a new nonroad engine or a piece of new nonroad equipment into U.S. commerce.
- (2) Any person who manufactures a fuel-system component for an engine subject to the requirements of this part as described in §1060.1(a).
- (3) Importers who import such products into the United States.

Marine SI means relating to vessels powered by engines that are subject to exhaust emission standards in 40 CFR part 1045.

Marine vessel has the meaning given in 40 CFR §1045.801, which generally includes all nonroad equipment used as a means of transportation on water.

Model year means one of the following things:

- (1) For equipment defined as "new nonroad equipment" under paragraph (1) of the definition of "new nonroad engine," model year means one of the following:
 - (i) Calendar year.
- (ii) Your annual new model production period if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin

before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

- (2) For other equipment defined as "new nonroad equipment" under paragraph (2) of the definition of "new nonroad engine," model year has the meaning given in the exhaust standard-setting part.
- (3) For other equipment defined as "new nonroad equipment" under paragraph (3) or paragraph (4) of the definition of "new nonroad engine," model year means the model year of the engine as defined in the exhaust standard-setting part.

New nonroad equipment means equipment meeting one or more of the following criteria:

- (1) Nonroad equipment for which the ultimate purchaser has never received the equitable or legal title. The equipment is no longer new when the ultimate purchaser receives this title or the product is placed into service, whichever comes first.
- (2) Nonroad equipment that is defined as new under the exhaust standard-setting part. (Note: equipment that is not defined as new under the exhaust standard-setting part may be defined as new under this definition of "new nonroad equipment.")
- (3) Nonroad equipment with an engine that becomes new (as defined in the exhaust standard-setting part) while installed in the equipment. The equipment is no longer new when it is subsequently placed into service. This paragraph (3) does not apply if the engine becomes new before being installed in the equipment.
- (4) Nonroad equipment not covered by a certificate of conformity issued under this part at the time of importation and manufactured after the requirements of this part start to apply (see §1060.1). The equipment is no longer new when it is subsequently placed into service. Importation of this kind of new nonroad equipment is generally prohibited by 40 CFR part 1068.

Nominal capacity means a fuel tank's volume as specified by the fuel tank manufacturer, using at least two significant figures, based on the maximum volume of fuel the tank can hold with standard refueling techniques.

Nonroad engine has the meaning we give in 40 CFR 1068.30. In general this means all internal-combustion engines except motor vehicle engines, stationary engines, engines used solely for competition, or engines used in aircraft. This part does not apply to all nonroad engines (see § 1060.1).

Nonroad equipment means a piece of equipment that is powered by or intended to be powered by one or more nonroad engines. Note that §§ 1060.5 and 1060.601 describes how we treat outboard engines, portable marine fuel tanks, and associated fuel-system components as nonroad equipment under this part 1060.

Nontrailerable boat means a vessel whose length is 26.0 feet or more, or whose width is more than 8.5 feet.

Official emission result means the measured emission rate for an emission-data unit.

Placed into service means put into initial use for its intended purpose.

Portable marine fuel line means a detachable fuel line that is used or intended to be used to supply fuel to a marine engine during operation. This also includes any fuel line labeled or marketed at USCG Type B1 fuel line as specified in 33 CFR 183.540, whether or not it includes detachable connecting hardware; this is often called universal fuel line.

Portable marine fuel tank means a portable fuel tank that is used or intended to be used to supply fuel to a marine engine during operation.

Portable nonroad fuel tank means a fuel tank that meets each of the following criteria:

- (1) It has design features indicative of use in portable applications, such as a carrying handle and fuel line fitting that can be readily attached to and detached from a nonroad engine.
- (2) It has a nominal fuel capacity of 12 gallons or less.
- (3) It is designed to supply fuel to an engine while the engine is operating.
- (4) It is not used or intended to be used to supply fuel to a marine engine.

Production period means the period in which a component or piece of equipment will be produced under a certificate of conformity. A given production period for an emission family may not

include components certified using different test data. A production period may not exceed five years for certified components. Note that the definition of model year includes specifications related to production periods for which a certificate is valid for equipment.

Recreational vehicle means vehicles that are subject to evaporative emission standards in 40 CFR part 1051. This generally includes engines that will be installed in recreational vehicles if the engines are certified separately under 40 CFR 1051.20.

Relating to as used in this section means relating to something in a specific, direct manner. This expression is used in this section only to define terms as adjectives and not to broaden the meaning of the terms.

Revoke has the meaning given in 40 CFR 1068.30. If we revoke a certificate or an exemption, you must apply for a new certificate or exemption before continuing to introduce the affected equipment into U.S. commerce.

Round means to round numbers according to standard procedures as specified in 40 CFR 1065.1001.

Running loss emissions means unburned fuel vapor that escapes from the fuel system to the ambient atmosphere while the engine is operating, excluding permeation emissions and diurnal emissions. Running loss emissions generally result from fuel-temperature increases caused by heat released from in-tank fuel pumps, fuel recirculation, or proximity to heat sources such as the engine or exhaust components.

Sealed means lacking openings to the atmosphere that would allow a measurable amount of liquid or vapor to leak out under normal operating pressures or other pressures specified in this part. For example, you may generally establish a maximum value for operating pressures based on the highest pressure you would observe from an installed fuel tank during continuous equipment operation on a sunny day with ambient temperatures of 35 °C. A fuel system may be considered to have no measurable leak if it does not release bubbles when held underwater at the identified tank pressure for 60 seconds. This determination presumes the use of good engineering judgment; for example, it would not be appropriate to

test the fuel tank such that small leaks would avoid detection by collecting in a cavity created by holding the tank with a certain orientation. Sealed fuel systems may have openings for emission controls or for fuel lines needed to route fuel to the engine.

Small SI means relating to engines that are subject to emission standards in 40 CFR part 90 or 1054.

Structurally integrated nylon fuel tank means a fuel tank having all the following characteristics:

(1) The fuel tank is made of a polyamide material that does not contain more than 50 percent by weight of a reinforcing glass fiber or mineral filler and does not contain more than 10 percent by weight of impact modified polyamides that use rubberized agents such as EPDM rubber.

(2) The fuel tank must be used in a cut-off saw or chainsaw or be integrated into a major structural member where, as a single component, the fuel tank material is a primary structural/stress member for other major components such as the engine, transmission, or cutting attachment.

Subchapter U means 40 CFR parts 1000 through 1299.

Suspend has the meaning given in 40 CFR 1068.30. If we suspend a certificate, you may not introduce into U.S. commerce equipment from that emission family unless we reinstate the certificate or approve a new one. If we suspend an exemption, you may not introduce into U.S. commerce equipment that was previously covered by the exemption unless we reinstate the exemption.

Tare means to use a container or other reference mass to zero a balance before weighing a sample. Generally, this means placing the container or reference mass on the balance, allowing it to stabilize, then zeroing the balance without removing the container or reference mass. This allows you to use the balance to determine the difference in mass between the sample and the container or reference mass.

Test sample means the collection of fuel lines, fuel tanks, or fuel systems selected from the population of an emission family for emission testing. This may include certification testing or any kind of confirmatory testing.

Test unit means a piece of fuel line, a fuel tank, or a fuel system in a test sample.

Ultimate purchaser means, with respect to any new nonroad equipment, the first person who in good faith purchases such new nonroad equipment for purposes other than resale.

Ultraviolet light means electromagnetic radiation with a wavelength between 300 and 400 nanometers.

United States has the meaning given in 40 CFR 1068.30.

U.S.-directed production volume means the amount of equipment, subject to the requirements of this part, produced by a manufacturer for which the manufacturer has a reasonable assurance that sale was or will be made to ultimate purchasers in the United States.

Useful life means the period during which new nonroad equipment is required to comply with all applicable emission standards. See §1060.101.

Void has the meaning given in 40 CFR 1068.30. In general this means to invalidate a certificate or an exemption both retroactively and prospectively.

Volatile liquid fuel means any fuel other than diesel or biodiesel that is a liquid at atmospheric pressure and has a Reid Vapor Pressure higher than 2.0 pounds per square inch.

We (us, our) means the Administrator of the Environmental Protection Agency and any authorized representatives.

Wintertime equipment means equipment using a wintertime engine, as defined in 40 CFR 1054.801. Note this definition applies only for Small SI equipment.

[73 FR 59298, Oct. 8, 2008, as amended at 75 FR 23027, Apr. 30, 2010]

§ 1060.805 What symbols, acronyms, and abbreviations does this part

The following symbols, acronyms, and abbreviations apply to this part:

° degree.

ASTM American Society for Testing and Materials.

C Celsius.

CFR Code of Federal Regulations.

EPA Environmental Protection Agency.

FEL family emission limit.

g gram.

gal gallon.

hr hour.

in inch.

kPa kilopascal.

kW kilowatt.

L liter.

m meter.

min minute.

mm millimeter.

psig pounds per square inch of gauge pressure.

SAE Society of Automotive Engineers.

SHED Sealed Housing for Evaporative Determination.

U.S. United States.

U.S.C. United States Code.

W watt.

§ 1060.810 What materials does this part reference?

Documents listed in this section have been incorporated by reference into this part. The Director of the Federal Register approved the incorporation by reference as prescribed in 5 U.S.C. 552(a) and 1 CFR part 51. Anyone may inspect copies at the U.S. EPA, Air and Radiation Docket and Information Center, 1301 Constitution Ave., NW., Room B102, EPA West Building, Washington, DC 20460 or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: http:// $www.archives.gov/federal_register/$ code of federal regulations/ $ibr_locations.html.$

(a) ASTM material. Table 1 to this section lists material from the American Society for Testing and Materials that we have incorporated by reference. The first column lists the number and name of the material. The second column lists the sections of this part where we reference it. Anyone may purchase copies of these materials from the American Society for Testing and Materials, 100 Barr Harbor Dr., P.O. Box C700, West Conshohocken, PA 19428 or http://www.astm.com. Table 1 follows:

TABLE 1 TO § 1060.810—ASTM MATERIALS

Document number and name	Part 1060 reference
ASTM D471-06, Standard Test Method for Rubber Property—Effect of Liquids ("ASTM D471")	1060.515
Carbon ("ASTM D2862")	1060.240
ASTM D3802-79 (Reapproved 2005), Standard Test Method for Ball-Pan Hardness of Activated Carbon ("ASTM D3802")	1060.240
ASTM D4806-07, Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel ("ASTM D4806") ASTM D5228-92 (Reapproved 2005), Standard Test Method for Determination of Butane Working Capacity of	1060.501
Activated Carbon ("ASTM D5228")	1060.801

(b) SAE material. Table 2 to this section lists material from the Society of Automotive Engineers that we have incorporated by reference. The first column lists the number and name of the material. The second column lists the

sections of this part where we reference it. Anyone may purchase copies of these materials from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096 or http://www.sae.org. Table 2 follows:

TABLE 2 TO § 1060.810—SAE MATERIALS

Document number and name	Part 1060 reference
SAE J30, Fuel and Oil Hoses, June 1998 SAE J1527, Marine Fuel Hoses, January 1993 (Issued 1985–12, Revised 1993–02) SAE J2260, Nonmetallic Fuel System Tubing with One or More Layers, November 2004 SAE J2659, Test Method to Measure Fluid Permeation of Polymeric Materials by Speciation, December 2003	

(c) California Air Resources Board material. Table 3 to this section lists material from the California Air Resources Board that we have incorporated by reference. The first column lists the number and name of the material. The second column lists the sec-

tions of this part where we reference it. Anyone may obtain copies of these materials from California Air Resources Board, Haagen-Smit Laboratory, 9528 Telstar Avenue, El Monte, CA 91731–2990 or http://www.arb.ca.gov. Table 3 follows:

TABLE 3 TO § 1060.810—CALIFORNIA AIR RESOURCES BOARD MATERIALS

Document number and name	
Final Regulation Order, Article 1, Chapter 15, Division 3, Title 13, California Code of Regulations, July 26, 2004	1060.105, 1060.240

(d) American Boat and Yacht Council Material. Table 4 to this section lists material from the American Boat and Yacht Council that we have incorporated by reference. The first column lists the number and name of the material. The second column lists the sec-

tions of this part where we reference it. Anyone may purchase copies of these materials from the American Boat and Yacht Council, 613 Third Street, Suite 10, Annapolis, MD 21403 or http://www.abycinc.org/. Table 4 follows:

TABLE 4 TO § 1060.810—AMERICAN BOAT AND YACHT COUNCIL MATERIALS

Document No. and name	Part 1060 reference
ABYC H–25, Portable Marine Gasoline Fuel Systems, July 2010	1060.105

[73 FR 59298, Oct. 8, 2008, as amended at 75 FR 56482, Sept. 16, 2010]

§ 1060.815 What provisions apply to confidential information?

- (a) Clearly show what you consider confidential by marking, circling, bracketing, stamping, or some other method.
- (b) We will store your confidential information as described in 40 CFR part 2. Also, we will disclose it only as specified in 40 CFR part 2. This applies both to any information you send us and to any information we collect from inspections, audits, or other site visits.
- (c) If you send us a second copy without the confidential information, we will assume it contains nothing confidential whenever we need to release information from it.
- (d) If you send us information without claiming it is confidential, we may make it available to the public without further notice to you, as described in 40 CFR 2.204.

§ 1060.820 How do I request a hearing?

- (a) You may request a hearing under certain circumstances as described elsewhere in this part. To do this, you must file a written request, including a description of your objection and any supporting data, within 30 days after we make a decision.
- (b) For a hearing you request under the provisions of this part, we will approve your request if we find that your request raises a substantial factual issue.
- (c) If we agree to hold a hearing, we will use the procedures specified in 40 CFR part 1068, subpart G.

§ 1060.825 What reporting and recordkeeping requirements apply under this part?

Under the Paperwork Reduction Act (44 U.S.C. 3501 et seq), the Office of Management and Budget approves the reporting and recordkeeping specified in the applicable regulations. The following items illustrate the kind of reporting and recordkeeping we require for products regulated under this part:

(a) We specify the following requirements related to equipment certification in this part 1060:

- (1) In 40 CFR 1060.20 we give an overview of principles for reporting information.
- (2) In 40 CFR part 1060, subpart C, we identify a wide range of information required to certify engines.
- (3) In 40 CFR 1060.301 we require manufacturers to make engines or equipment available for our testing if we make such a request.
- (4) In 40 CFR 1060.505 we specify information needs for establishing various changes to published test procedures.
- (b) We specify the following requirements related to the general compliance provisions in 40 CFR part 1068:
- (1) In 40 CFR 1068.5 we establish a process for evaluating good engineering judgment related to testing and certification.
- (2) In 40 CFR 1068.25 we describe general provisions related to sending and keeping information.
- (3) In 40 CFR 1068.27 we require manufacturers to make equipment available for our testing or inspection if we make such a request.
- (4) In 40 CFR 1068.105 we require equipment manufacturers to keep certain records related to duplicate labels from engine manufacturers.
 - (5) [Reserved]
- (6) In 40 CFR part 1068, subpart C, we identify several reporting and record-keeping items for making demonstrations and getting approval related to various exemptions.
- (7) In 40 CFR part 1068, subpart D, we identify several reporting and record-keeping items for making demonstrations and getting approval related to importing equipment.
- (8) In 40 CFR 1068.450 and 1068.455 we specify certain records related to testing production-line products in a selective enforcement audit.
- (9) In 40 CFR 1068.501 we specify certain records related to investigating and reporting emission-related defects.
- (10) In 40 CFR 1068.525 and 1068.530 we specify certain records related to recalling nonconforming equipment.