DISCUSSION DOCUMENT

New standards for off-road small spark-ignition engines under consideration

Background

The *Off-Road Small Spark-Ignition Engine Emission Regulations* (hereinafter referred to as "the Regulations") came into effect on January 1, 2005. The Regulations introduced exhaust emissions standards to reduce smog-forming emissions from off-road small spark-ignition engines developing no more than 19 kW (25 hp). These engines are typically found in lawn and garden machines, in light-duty industrial machines and in light-duty logging machines. The engines typically use gasoline as fuel, although liquefied petroleum gas or natural gas are also commonly used.

When the Regulations came into force, the emission standards were aligned with the standards of the United States Environmental Protection Agency (U.S. EPA) established under Title 40, Part 90 of the Code of Federal Regulations (CFR). The U.S. EPA has since introduced new standards under Title 40, Parts 1054 and 1060 of the CFR.

Detailed description of the amendments under consideration

Environment Canada is now planning to introduce amendments to the Regulations to further reduce smog-forming emissions from off-road small spark ignition engines by incorporating the current U.S. EPA Phase 3 exhaust and evaporative emission standards established under Title 40, Parts 1054 and 1060 of the CFR. Incorporation of the latest U.S. EPA emission standards is in accordance with Environment Canada's policy of alignment of Canadian and American emission standards for vehicles and engines.

Besides the incorporation of the latest U.S. EPA emission standards, other amendments under consideration include the following:

- removal of some provisions that were infrequently used, but that caused compliance issues
- updates to emission standards for bicycle engine kits
- changes to the labeling requirements and the addition of a requirement to add a unique identification number to engines
- changes to the submission process for importation declarations

- modification of some existing provisions to improve the clarity of the Regulations and maintain a consistent approach among the various regulations administered by Environment Canada for controlling emissions from vehicles and engines.

These potential future amendments to the Regulations would apply to engines manufactured on, or after, the coming into force date of the amendments. Emission standards introduced by the amendments would likely apply to engines of the 2015 and later model years and their associated fuel systems.

Details of the amendments under consideration are included below.

New exhaust emission standards

Environment Canada is considering incorporating the U.S. EPA's Phase 3 exhaust emission standards for engines of the 2015 and later model years. These standards are described in sections 103 and 105 of Title 40, Part 1054 of the CFR, while the useful life period is described in section 107 of the same part of the CFR.

The Phase 3 exhaust emission standards reduce HC + NOx emission levels from Phase 2 standards by between 33 and 38 percent for non-handheld engines. For handheld engines, the Phase 3 exhaust emission standards remain the same as the Phase 2 standards.

New evaporative emission standards

Environment Canada is considering incorporating the U.S. EPA's evaporative emission standards for engines of the 2015 and later model years that have attached fuel system components (fuel lines or fuel tanks). These standards are described in sections 101-105 of Title 40, Part 1060 of the CFR and apply for a useful life period of 5 years.

In particular, both handheld and non-handheld engines with attached fuel system components would have to meet standards for fuel line permeation, fuel tank permeation and for the design of the fuel tank inlet to reduce refueling emissions. Non-handheld engines with attached fuel system components would have to meet additional standards for running losses (or optionally, diurnal emissions), and for the proper installation of fuel caps, vents and carbon canisters.

Because of the various certification options available under the U.S. certification regime for fuel system components, any product containing an engine and its attached fuel system could be

covered by more than one EPA certificate which could be held by more than one certifying company. Under the regulatory approach being considered by Environment Canada for evaporative emission standards, a Canadian company relying on the EPA certified/sold concurrently provisions to demonstrate that a product complies with the Canadian standards would have to ensure the following:

- the imported product, in its imported configuration (identical fuel system configuration), is sold concurrently in Canada and the United States
- all EPA certificates covering the engine and attached fuel system components would be available to Environment Canada upon request.

For products that are not EPA certified/sold concurrently, the Canadian company importing or manufacturing the product would be required to submit evidence of conformity under a mechanism similar to the existing mechanism described in section 17 of the Regulations.

Updated emission standards for small spark-ignition engines designed to power bicycles

Updates to the emission standards for small spark-ignition engines designed to power bicycles are under consideration. These engines are typically supplied as kits which include the engine, the fuel system, and all hardware required to convert a conventional bicycle to one that is motorized.

In the past, emissions from these engines were regulated in the United States under Title 40, Part 90 of the CFR, however, the regulation of these products was recently transferred to Title 40, Part 1051 of the CFR. To ensure continued alignment of Canadian standards with those of the U.S. EPA, Environment Canada plans to align with the applicable emission standards in Title 40, Part 1051 for this category of engine and associated fuel system.

Optional standards for wintertime engines and alternative standards for 2-stroke snowblower engines

Environment Canada is considering extending existing provisions that make the HC+NOx emission standard optional for wintertime engines. Wintertime engines are defined as engines used to power machines used only in the winter, such as snowblowers or ice augers.

Likewise, extension of the alternative emission standards available for 2-stroke snowblower engines is also being considered. Under the existing Regulations, two-stroke snowblower engines

may meet exhaust emission standards that apply to handheld engines with the same engine displacement instead of the nonhandheld standards that would otherwise apply.

Altitude adjustments

Environment Canada is considering including provisions that would allow engines of the 2015 and later model years to rely on an altitude kit to comply with exhaust emission standards. Such provisions would be in alignment with section 115 (c), subpart B, of CFR 1054.

Revision of the definition of "model year"

Amendments to the definition of "model year" are being considered to accommodate seasonal production periods which may end in the calendar year preceding the year that the manufacturer wishes to designate as the "model year". This change would result in an approach that is consistent with that of the U.S. EPA.

Deletion of "niche products" provision for handheld engines

Subsection 10. (2) of the existing Regulations makes it possible for a given model of handheld engines to meet less stringent emission standards if only a small number of those engines are sold in Canada during a given model year. Environment Canada is considering removing this possibility because it is rarely used and the provision results in compliance verification challenges.

Deletion of "deemed covered" provision

Subsection 14. (1) of the existing Regulations makes it possible for engine models that are not specifically listed on an EPA certificate to be considered covered by that EPA certificate under certain circumstances. Consistent with changes that are proposed or have already been made to other transportation related regulations, Environment Canada is considering removing this possibility due to difficulties with the administration of this provision.

If this provision is removed from the Regulations, companies that have relied on this provision in the past to demonstrate compliance with the Regulations would, in the future, be required to either list the specific engine model in their application for certification to the EPA, or submit evidence of conformity to Environment Canada as per the existing mechanism described in section 17 of the Regulations.

New requirements to add a unique identification number to engines

A requirement for a unique identification number to be present on every regulated engine is being considered. In addition to the fact that the use of such a number is already common industry practice, the presence of such a number would facilitate effective “Notice of Defect” reporting and would also be consistent with U.S. EPA requirements.

Changes to the labeling requirements

Changes to the labeling requirements are being considered to clarify the requirements and facilitate the identification of regulated engines.

Any engine that does not rely on the EPA certified/sold concurrently provisions (see Subsection 14. (2) of the existing Regulations) would require a label, the content of which would be similar to that of a U.S. EPA emission control information label. The proposed requirement is consistent with current labeling practice. The inclusion of text specifying the details of this requirement in the Regulations would clarify the regulatory requirements.

In addition, engines that are specifically excluded from the Regulations would require a label as a condition of exclusion. The label would indicate that the engines are only to be used for the specific applications that resulted in the exclusion.

U.S. transition program for machine manufacturers

Under Part 1054 of the CFR, the U.S. EPA has included provisions for a transition program which allows for limited use of engines not meeting Phase 3 emission standards for a short period of time, conditional upon the engines meeting the Phase 2 emission standards.

Based on the projected timeline for finalising the proposed amendments, it would not be possible to implement a transition program similar to the one available in the United States in time for it to be of any use to regulatees. Considering this, Environment Canada is not considering developing a corresponding transition program in Canada.

Submission of importation documentation

To facilitate the administration of the Regulations and to reduce regulatory burden, Environment Canada is considering modifying the requirements related to the submission of importation declarations.

Currently, companies that import engines must submit a declaration to the Canada Border Services Agency each time an importation occurs. Companies that import 500 or more engines in a calendar year have the option to submit importation declarations in an alternative form that is satisfactory to the Minister.

Environment Canada is considering requiring that in the future, all importers would instead submit one annual importation declaration to the Minister. This approach would reduce the burden on the importers, while still allowing for effective compliance monitoring and enforcement of the regulatory requirements.

Next Steps

Comments on this document should be submitted no later than September 14, 2012, to:

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Environment Canada will consider comments received on this discussion document in the development of proposed amendments that are expected to be published in Part I of the *Canada Gazette* in early 2013.

Subsequently, an official 75-day comment period will follow publication in Part I of the *Canada Gazette* during which time interested stakeholders will have the opportunity to provide additional comments for consideration during finalisation of the amendments.

Publication of finalised amendments in Part II of the *Canada Gazette* is anticipated in late 2013.