

**AUSTRALIAN GOVERNMENT
ENVIRONMENT PROTECTION AND HERITAGE COUNCIL**

**Reducing Emissions From Non-Road
Spark Ignition Engines and Equipment
Consultation Regulation Impact Statement**

**Comments of
Briggs & Stratton Corporation**

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I. Introduction

Briggs & Stratton Corporation is the world's largest manufacturer of air-cooled four-stroke nonhandheld engines and equipment. The Non-Road Working Group on behalf of the Environment Protection and Heritage Council has published the above referenced report to evaluate emissions control of a variety of non-road spark-ignited engines and equipment that use these engines. Briggs & Stratton manufactures engines and equipment that would be subject to the proposed emissions controls and will therefore be directly affected by any proposed rule. Briggs & Stratton Corporation submits these comments on behalf of all its worldwide operations including Briggs & Stratton Australasia Operations, which includes the Victa brand of products, which are produced and distributed primarily in Australia.

Briggs & Stratton is a member of the Outdoor Power Equipment Association (OPEA), the Outdoor Power Equipment Institute (OPEI), and the Engine Manufacturers Association (EMA). These organizations are separately submitting comments regarding this proposed rule. Briggs & Stratton participated in the development of the industry group comments. To the extent that the OPEA, OPEI and EMA comments do not conflict with the specific Briggs & Stratton comments below, we support those comments. We request that the Council consider the OPEA, OPEI and EMA comments to be incorporated by reference as part of the Briggs & Stratton submittal regarding this report.

II. Summary of Comments

Briggs & Stratton agrees with alignment of any proposed Australian regulations with the U.S. EPA regulatory requirements. However, it is imperative to recognize that the U.S. EPA requirements were developed in consultation with the small engine/product industry representatives. The small engine industry has designed, certified, and built products to comply with the whole package of regulations including all of the flexibility and phase-in provisions. It is also very important to recognize that fuels utilized to demonstrate compliance must be aligned in addition to product emission standard requirements.

Another important point to note is that the applicable U.S. EPA standard levels are based on the engine build date (or in some cases for evaporative emissions the equipment build date). Since the Australian seasons are 6 months off from the U.S. seasons, and there are several months of shipping time from the U.S. to Australia, it is to be expected that market penetration of Phase 3 compliant products will be at least one year later in Australia compared to the U.S. This time difference needs to be considered in the implementation of the Australian regulations.

III. Overview and Background

The U.S. EPA regulations associated with non-road spark ignition engines are segregated into three general categories: (i) small spark ignition engines (≤ 19 kw) and large spark ignition engines ≤ 1.0 liter in displacement; (ii) large spark ignition engines (>19 kw and >1.0 liter in displacement); and (iii) marine spark ignition engines. The small spark ignition (SSI) engine category is further divided to segregate handheld engines/equipment from non-handheld engines/equipment. It is important to recognize that with the expansion of regulations to include evaporative emission controls the product certification and compliance requirements potentially include not only engine manufacturers but also their equipment manufacturer customers and fuel system component manufacturers.

In the U.S. ethanol has recently become the primary oxygenate blend component for gasoline. Ethanol blends have been utilized in the marketplace for many years and, while there have been concerns, manufacturers have developed their products to be compatible with ethanol blends ranging from 0 to 10%. The ability to utilize U.S. EPA certified engines and equipment in Australia is dependent on the same gasoline and gasoline blends being available in the marketplace. In fact certification using a 10% ethanol blend is an option for exhaust certification and a requirement for evaporative certification. Similarly, engine operating on propane or natural gas must have comparable gas properties for acceptable operation and emission control. U.S. EPA demonstration of compliance includes identification of the fuel utilized for testing. This same flexibility will be necessary for an Australian regulation.

IV. U.S. EPA Exhaust and Evaporative Standard Requirements

The U.S. EPA exhaust emission requirements that are currently in the process of being implemented include very stringent control of exhaust emissions for non-handheld SSI engines. These stringent emission control levels are only possible when taken in their entirety, including the use of historical manufacturer credits and future averaging, banking, and trading provisions. The EPA Phase 3 rule development lasted over two years and involved more than two-dozen meetings and conference calls between industry and the U.S. EPA. The EPA Phase 3 requirements are a comprehensive package that cannot be bifurcated or selectively adopted without significant influence on product availability.

The EPA Phase 3 regulations include all of these elements:

1. ABT (averaging, banking, and trading)
2. Numerous phase in provisions including fuel tank exemptions, early introduction credits, and
3. Small volume family exemptions, small volume manufacturer exemptions, and small-business exemptions

The latest EPA exhaust standard levels are being implemented over a multiple year period, beginning with the 2011 model year. The phase-in of product complying with these

standard levels continues through the 2013 model year with the use of averaging continuing forward.

The EPA Phase 3 regulations are not implemented yet so it is not possible to determine how many engine families will be certified above the standard level using the ABT provisions. However, California Tier III exhaust standards have been fully implemented for several years and are the same standard level as the EPA Phase 3 levels. Using publicly available data from the California Air Resources Board certification database, 31% of the certified engine families between 80 and 225 cc displacement (Class 1) are certified at a level greater than the standard value of 10.0 g/kw-hr HC+NO_x (non-winter time only, winter time only engines are not certified to the HC+NO_x standard). For Class 2 engines (greater than 225 cc displacement) 38% of the engine families are certified above the standard level of 8.0 g/kw-hr.

Clearly the use of the ABT provisions will be crucial to meeting the EPA Phase 3 exhaust standard levels. Fully one third of the engine families currently certified for sale in California are using the ABT provisions to achieve compliance. Implementing Phase 3 standard levels for Australia without the same flexibility provisions and with virtually no lead time would severely limit the product offerings available for sale in Australia. Based on a market of roughly 1 million engines we would estimate 350,000 engines that are EPA certified would not be available for sale in Australia. The remaining products would likely increase in price approximately 25 percent.

The concern that U.S. manufacturers would sell their high emitting engines in Australia is not based on any facts or survey information regarding market differences between the U.S. and Australia but rather the premise that engines exported to Australia would not be accounted for in the U.S. AB&T system. While it is true that exports are not included in the U.S. AB&T calculations, it is not reasonable to expect a disproportionately higher number of high versus low emission products would be provided to the Australian market. Additionally, U.S. EPA regulations (40 CFR Part 1068.230(a)) preclude manufacturers from claiming a product is except from regulation due to exportation if the country that the engine is being exported to has emission standards that are identical to U.S. EPA regulations. If Australia would adopt U.S. EPA regulations including standard levels and AB&T this provision would protect Australia from any concerns. Briggs & Stratton Corporation produces only EPA certified 4-cycle engines for sale in Australia now and B&S engines represent 55 to 75 percent of the current Australian small engine market. Since B&S does not sell a disproportionate number of higher emitting engines in Australia now there is no reason to believe that will change with the adoption of Australian emission regulations.

One unique concern for B&S is the 2-cycle engine currently sold under the Victa brand and assembled locally in Australia for walk-behind lawnmowers. It is important to note that the 2-cycle engine has performance characteristics that meet the demanding dry, dusty conditions of the Australian market. These conditions are not as prevalent in the U.S., and thus the engine is not sold in the U.S. Therefore, the 2-cycle engine has not received the emission improving investment of its 4-cycle counterparts in the US. As such, the 2-cycle engine is not designed to meet the EPA emission regulations and Briggs & Stratton requests that a transition period for 2-cycle lawn mower engines be included in the Australian regulations. The engine will be modified

to improve the emission characteristics or the engine will be properly phase out with minimal operational and market implications. It would be reasonable to allow the production of non-compliant 2-cycle engines on walk behind mowers through the 2014 model year. This will allow the continuation of Australian assembly operations with a reasonable transition period.

The evaporative requirements for U.S. EPA share a number of common attributes between the various nonroad spark-ignition categories but there are also a number of differences that must be recognized to ensure the expected alignment between U.S. and Australian products. For the non-handheld SSI engine powered equipment segment, the U.S. EPA evaporative emission requirements include different component compliance requirements being implemented over time. Controls include permeation and running loss controls but not diurnal controls. The permeation control was implemented initially for fuel lines and is in process of being implemented for fuel tanks over time with several flexibility provisions, including an AB&T system. The evaporative program will be fully implemented in the 2013 model year with averaging continuing forward. Also, significantly different than the exhaust program, the evaporative program relies significantly on component manufacturer certification to allow engine and equipment manufacturers to certify compliance by design. It is important for Australia to recognize that adoption of the U.S. EPA evaporative requirements would require adoption of the complete program, including the flexibility provisions, the component certification provisions, and engine/equipment certification by design.

Note that the EPA evaporative emission regulations are based on the fuel system build date, not the engine build date. The end product manufacturers also must certify if they supplying the fuel system (fuel tanks), which many OEMs do. Because of this complexity, there is a transition time for Phase 2 engines to be built into end products (the first two years of the Phase 3 regulations). Adopting EPA Phase 3 standards without these transition provisions would obsolete engine inventories and make many products that are EPA certified not available in the Australian market.

We understand that Australia is interested in achieving emission reductions from this industry segment as soon as practical. To facilitate the earliest implementation of reductions B&S recommends that Australia consider adoption of the EPA exhaust emission standards beginning with Phase 2 standards, possibly as early as the 2012 model year with implementation of EPA Phase 3 exhaust and evaporative standards beginning in the 2016 model year. Emission compliance would be demonstrated by either compliance with applicable U.S. EPA standards, including product labeling, or a certification submission process established in Australia to approve any products not certified by U.S. EPA.

V. Conclusions and Recommendations

We understand from the Regulation Impact Statement that Australia would like to adopt emission regulations as soon as possible, with the least amount of administrative burden, and not to be any more stringent than the US EPA regulations. For the reasons articulated previously in this response letter, B&S recommends that the Environment Protection and Heritage Council adopt exhaust and evaporative emission standards for Australia based on the U.S. EPA regulatory compliance requirements including: (i) all of the flexibility provisions included in the U.S. standards including AB&T; (ii) alignment of fuels available in the marketplace and used for certification between the U.S. and Australia; (iii) consistent with the EPA regulations, the build dates and not the import dates should be used to determine compliance; (iv) an exemption from exhaust standards should be included for 2-cycle walk behind engines until 2014; and (v) implementation of EPA Phase 2 exhaust standards beginning with the 2012 model year and EPA Phase 3 exhaust and evaporative standards with the 2016 model year.

Using a Canadian model for emission regulations could minimize the administrative burden for the Australian government. Under the Canadian Model any engine (or end product) certified for sale in the U.S. could also be sold into Australia without any additional certification application. Only products that are not certified for sale into the U.S. would need to obtain an Australian certification. As previously mentioned, the provisions in the Canadian regulations prevent higher emitting products from being selectively sold in Canada. These same provisions would ensure that higher emitting products could not be sold in Australia either.

B&S looks forward to working with the Environment Protection and Heritage Council as emission requirements for non-handheld SSI engines are considered and/or adopted for Australia.