

BAT Snowmobile Air Emissions

Issue: One commentor was concerned that the 5-mode engine dynamometer is not reasonable since it includes a full throttle measurement while snowmobiles are not allowed to operate at full throttle because of speed limits. Another commentor suggested that we use this test since it is the industry standard.

NPS Response: The 5-mode engine dynamometer is the industry standard test for measuring emissions. It is also the test used by snowmobile manufacturers in determining compliance with the EPA's regulation on snowmobile emissions. Relying on the same testing will simplify compliance procedures for snowmobile manufacturers, as the manufacturers will be able to provide NPS with a copy of their emissions data generated to comply with EPA's rule. Further, snowmobiles used in the park are often operated by users at full throttle during acceleration, even though speed limits are in place. Many four-stroke machines also operate near full throttle when going 45 mph, especially when they are going up hills, weighted with two riders or luggage or other gear, or pulling a tow sled. Eliminating the full throttle mode within the 5-mode test would also amount to a de facto increase in total emissions in the parks.

Issue: One commentor provided a report by an independent firm reviewing the SEIS air quality analysis, which alleged that the SEIS overestimated the air quality impacts resulting from snowmobiles. They requested that NPS re-analyze the air quality impacts of snowmobiles and factor in the new analysis to the final regulation.

NPS Response: The NPS believes the SEIS conclusions concerning air quality impacts resulting from snowmobiles are accurate. While the modeling may have overestimated one emissions factor, others were underestimated. However, specific questions related to the SEIS analysis are beyond the scope of this rule. Further, it would be impossible to re-analyze the air quality impacts of snowmobiles and still publish this final rule prior to the start of the 2003–2004 winter season. The NPS will conduct ongoing monitoring to determine the accuracy of the SEIS analysis.

Issue: One commentor recommended harmonization of the NPS BAT program with EPA's November 2002 regulation. The commentor also suggested that NPS use the EPA's 2012 snowmobile emissions limits as the BAT requirements.

NPS Response: We wish to make the administrative burden for complying with our BAT requirements as simple as possible. Therefore, we are requiring through the final regulation that manufacturers submit to the NPS their Family Emissions Limit (FEL) application, which complies with EPA's regulations. This should minimize the need for snowmobile manufacturers to conduct any additional testing or analysis to demonstrate their compliance with the NPS' air emissions requirements. Generally, engine families contain only a single engine, which are then used in a variety of snowmobile body styles or models. Snowmobile engines that have significant emissions related modifications are categorized as a different engine family. For instance, a four-stroke with a turbo charger would constitute a separate engine family, and require a separate FEL, than the same engine without a turbo charger.

Using FELs will harmonize the process for determining BAT compliance with EPA's regulation. However, we do not believe EPA's Tier 3 emissions limits, which reduce hydrocarbons and carbon monoxide by 50%, will sufficiently protect air quality in the parks, where snowmobile use is highly concentrated. Therefore, the final regulation relies on the proposed BAT requirements of a 90% reduction in hydrocarbons and a 70% reduction in carbon monoxide.

Issue: BAT limits as proposed should only be applied to the average emissions of individual snowmobile models. Thus, BAT limits in the proposed regulation should be compared to Official Test Results (OTR).

NPS Response: When initially contemplated, the NPS intended for the BAT requirements to represent the maximum emissions a snowmobile could emit while still being allowed to enter the parks. Several statements regarding BAT in the ROD and SEIS indicate that "any recreational snowmobile entering YNP must achieve emissions below 15 g/kW-hr for hydrocarbons and 120 g/kW-hr for carbon monoxide." (ROD p. 14) We believe that we can use FEL to demonstrate compliance with BAT and achieve this purpose. If we instead relied on Official Test Results to determine compliance with BAT, some snowmobiles could have emissions greater than our BAT requirements, which could result in an overall increase in emissions in the parks.

Issue: One commentor said the use of OTR as an emission standards basis is not as reliable as the use of FELs, nor is it consistent with EPA's current practice for developing emission

standards. They concluded that NPS should base its numerical limits on the use of FEL values.

NPS Response: We agree with these comments and we are adopting the FEL method of demonstrating compliance with BAT in the final regulation. The use of FEL has several advantages. First, use of FEL will ensure that all individual snowmobiles entering the parks achieve our emissions requirements, unless modified or damaged (under the final regulation, snowmobiles which are modified in such a way as to increase air or sound emissions will not be in compliance with BAT and not permitted to enter the parks). For this reason, FEL is the best mechanism to protect park air quality. Use of FEL will also represent the least amount of administrative burden on the snowmobile manufacturers to demonstrate compliance with NPS BAT requirements. Further, the EPA has the authority to insure that manufacturers' claims on their FEL applications are valid. EPA also requires that manufacturers conduct production line testing (PLT) to demonstrate that machines being manufactured actually meet the certification levels. If PLT indicates that emissions exceed the FEL levels, then the manufacturer is required to take corrective action. Through EPA's ability to audit manufacturers' emissions claims, NPS will have sufficient assurance that emissions information and documentation will be reviewed and enforced by the EPA. FEL also takes into account other factors, such as the deterioration rate of snowmobiles (some snowmobiles may produce more emissions as they age), lab-to-lab variability, test-to-test variability, and production line variance. In addition, under the EPA's regulations, all snowmobiles manufactured must be labeled with FEL air emissions information. This will help to ensure that our emissions requirements are consistent with these labels and the use of FEL will avoid potential confusion for consumers.

Issue: One commentor stated that the EPA baseline emissions assumptions for conventional two-stroke snowmobiles (400 g/kW-hr for CO; 150 g/kW-hr for HC) were determined based on the average test results of several snowmobile models. They were not intended to reflect the FEL. Therefore, NPS should rely on OTR.

NPS Response: NPS recognizes that the EPA baseline assumptions represent the emissions of an "average" snowmobile. However, EPA ties this assumption to their FEL requirements. For instance, the EPA regulation requires that all snowmobiles achieve a