

Superintendent could further reduce the amount of air and sound emissions in the park units by requiring that cleaner and quieter machines be used. In such a case the parks generally would not initiate formal rulemaking or publish a notice in the **Federal Register** to effect changes in winter use management. Instead these changes would be authorized through these proposed rules. None of the actions in this proposed rule are intended to preclude road or other closures for safety, resource protection, or other reasons as identified in 36 CFR 1.5.

If monitoring or adaptive management leads park managers to take management actions, the Superintendent will provide appropriate public notice in accordance with 36 CFR 1.7(a). To provide the public with sufficient notice, changes in winter management of the parks would ordinarily be made by July 1 and implemented in a future winter season. The Superintendent will also report periodically to the public on monitoring results and justify any changes in winter use management. These changes would be based on analyses of the data collected from the parks' monitoring program.

We are interested in soliciting comments from the public on other potential strategies and authorities to implement adaptive management, which allow park managers similar flexibility as the process described above. We recognize that adaptive management has only been formally used in a relatively few national parks, although parks have informally used it in the past.

Best Available Technology

In recent years, some snowmobile manufacturers have made significant improvements at reducing air and sound emissions in some snowmobile models. The 2002 Arctic Cat 4-Stroke Touring and the 2002 Polaris Frontier four-stroke represent the cleanest and quietest commercially available snowmobiles for which test data is available to the NPS. These snowmobiles are capable of reducing hydrocarbon emissions by 95–98% and carbon monoxide by 85%, as compared to a standard two-stroke snowmobile. In addition, four-stroke snowmobiles typically perform at full throttle at sound levels below 73 dB as measured on the A-weighted scale, as compared to two-stroke snowmobiles, which typically perform at 75–78 dB(A). Four-stroke snowmobiles also produce more even frequency spectra and are less audible over a distance, relative to two-stroke snowmobiles.

Therefore, to mitigate impacts to air quality and the natural soundscape, NPS is proposing to require that initially, most recreational snowmobiles operating in the parks, and by the winter season of 2004–2005 all recreational snowmobiles in Yellowstone, be BAT. Initially BAT would be set at any snowmobile that can achieve a 90% reduction in hydrocarbons and a 70% reduction in carbon monoxide from EPA's baseline assumptions for uncontrolled snowmobiles as published in the **Federal Register** on November 8, 2002 (67 FR 68241). The initial requirement is set lower than the test results from the 2002 machines to allow more than one manufacturer the opportunity to produce snowmobiles that meet the requirements while allowing the NPS to achieve our air quality goals.

Thus, any recreational snowmobile operating in YNP must achieve air emissions below 15 g/kW-hr for hydrocarbons and 120 g/kW-hr for carbon monoxide. Snowmobiles must be tested on a 5-mode engine dynamometer, in accordance with EPA's November 8, 2002, rule (67 FR 28241) with test data and methodology provided to NPS for review. The NPS is relying on the 5-mode engine dynamometer test because it is the standard testing procedure approved by the Environmental Protection Agency and because it was used in determining snowmobile emissions for the SEIS and it would allow for comparisons to be made amongst snowmobiles models. Other test methods could be approved by NPS on a case-by-case basis.

Snowmobiles would also be required to operate at or below 73 dB(A), as measured at full throttle according to Society of Automotive Engineers J192 test procedures. The initial BAT requirement for sound was established by reviewing individual machine results from side-by-side testing performed by the NPS' contractor, Harris Miller Miller & Hanson Inc. (HMMH) and the State of Wyoming's contractor, Jackson Hole Scientific Investigations (JHSI). These separate reports independently concluded that the six four-stroke snowmobiles tested between 69.6 and 77.0 dB(A) using the J192 protocol. On average, the HMMH and JHSI studies measured four-strokes at 73.1 and 72.8 dB(A) at full throttle, respectively. The SAE J192 test also allows for a tolerance of 2 dB(A) over the sound limit to account for variations in weather, snow conditions, and other factors.

Currently, little data exists on snowcoach emissions, with the exception of one laboratory study commissioned by the State of Wyoming

which used a chassis dynamometer to measure emissions from one V–10 powered Ford E–350 15-passenger van (Lela, Chad C. and Jeff L. White, 2002). Field conditions in this study could not be replicated accurately in the laboratory because the percent of time a snowcoach operates in open-loop mode (with the throttle wide open, producing higher emissions) versus closed-loop mode (at normal throttle, producing extremely low emissions) is unknown. Running in snow on tracks requires more power than operation with wheels and thus the vehicle may operate in open-loop mode more frequently.

Currently no industry standard air emissions testing procedure exists for snowcoaches that would be cost effective to implement in the field. Due to the cost, it would be impractical to use an engine or chassis dynamometer in the field to determine emissions of individual snowcoaches.

There are approximately 55 snowcoaches currently operating in Yellowstone National Park. Under concessions contracts currently proposed, there could be as many as 69 snowcoaches authorized. Approximately 29 snowcoaches operating in the park were manufactured by Bombardier and were designed specifically for oversnow travel. Those 29 snowcoaches were manufactured prior to 1983 and are referred to as "historic snowcoaches" for the purpose of this rulemaking. All other snowcoaches are 12 to 15-passenger vans that have been converted for oversnow travel using tracks and/or skis.

The March 2003 ROD called for snowcoach air emissions to be no greater than 15 g/kW-hr for hydrocarbons and 120 g/kW-hr for carbon monoxide by the winter of 2005–2006. However, we do not believe it is currently feasible to enforce this requirement as there is insufficient information to establish testing procedures.

Therefore, we are proposing to require that all snowcoaches meet the EPA's standards that were in existence at the time the vehicle was manufactured. Most of these vehicles achieve EPA's Tier 1 emissions standards, which were phased-in from 1994–1996. To ensure that vehicles were meeting EPA's emissions standards, we would require that the vehicle's original pollution control equipment had not been modified or tampered with. Snowcoach owners would be required to certify to the NPS and make available for inspection upon NPS' request, that the vehicle's pollution control equipment is as originally manufactured.