

UNION OF CONCERNED SCIENTISTS

August 4, 1998

VIA FAX 734-214-4821

Joseph Somers
U.S. Environmental Protection Agency
Assessment and Modeling Division
2000 Traverwood Drive
Ann Arbor, MI 48105

Re: **Comments on "Description and Documentation for Interim Vehicle Clean Screening Credit Utility"**

Dear Mr. Somers

The following comments are submitted by the Union of Concerned Scientists in response to U.S. Environmental Protection Agency (EPA) draft guidance documents regarding "clean screening." In general, we are pleased that EPA recognizes that there are significant differences in probability of I/M test failure based on differences in vehicle technology, rather than simply on individual driving and maintenance practices. However, at this point we believe the most appropriate use of in-use emissions data is for targeting vehicle models for enhanced testing (i.e., high emitter profiling), rather than for "clean screening" of vehicles. Furthermore, we are troubled by the distinct possibility that blanket "clean screening" of vehicles based on model year will deprive regulators, automakers, and the public of valuable information that can be used to better understand the in-use emissions performance of modern vehicles.

In general, UCS believes that low emitter profiling that allows vehicles to be exempt from testing is not appropriate if it is based on limited data on past performance of the vehicle model or on unreliable in-use testing data. Granting blanket exemptions in either case may lead to unacceptable emissions benefit losses and aggravate already challenging state implementation plan problems. We question the current reliability of remote sensing devices to accurately measure emission rates from individual vehicles, and, of course, remote sensing devices cannot measure evaporative hydrocarbon emissions at all. Clean screening, if employed, must be based on a robust, ongoing and applicable data set. Widespread adoption of such a technique will rob regulators of the very source of the data that are necessary to better understand in-use emissions performance and to develop effective control programs.

Remote Sensing

We believe that current remote sensing devices are most appropriate to characterize vehicle technology performance by vehicle model or technology type, rather than for an individual vehicle, unless the testing is carefully designed and implemented. If the RSD testing is not done properly, then the results could be counterproductive.

California Office: 2397 Shanuck Avenue Suite 203, Berkeley, CA 94704.510-843-1872. FAX:510-843-3785
Cambridge Headquarters: Two Brattle Square, Cambridge, MA 02238.617-547-5552. FAX: 617-864-9405
Washington Office; 1616 P Street NW Suite 310. Washington, DC 20036.202-332-0900. FAX:202-332-0905

We believe RSD is most useful in providing verification of the magnitude of emissions from the in-use fleet. The biases associated with EPA vehicle recruitment and state I/M programs are not present with remote sensing. For instance, data from Arizona suggests a large number of vehicles (about 25%) that fail an initial state emissions inspection test never receive a passing I/M test. Since mobile source inventories are being based on state I/M data, there is a strong possibility that an important fraction of the in-use fleet (probably some of the dirtiest vehicles) are not represented. Remote sensing programs are an important additional data source for accurately assessing emissions from the entire in-use fleet and can be used to characterize vehicle models in a high emitter profile model

Low Emitter Profiling versus High Emitter Profiling

Vehicle emissions profiling relies on statistics on the historic rate of failure for vehicles of the same model. This method relies on the existence of a large and broad database of historic performance information. Its flaws are similar to those found in the model year exemption option. More expensive vehicles with higher quality emissions systems are more likely to receive a low emitter waiver. For example, the owners of relatively inexpensive, and misfire-prone *compact* cars will not be exempt, while the owners of expensive, and relatively clean luxury cars will be. The inherent lack of fairness and the loss of in-use emissions data are strong reasons for reconsidering this clean screening option.

UCS does support the use of all available in-use emissions information for *high* emitter profiling that targets vehicles or vehicle models for enhanced testing and repair requirement. While the principle is the same as with low emitter profiling, high emitter profiling does not run the risk of emission benefit backsliding and does not suffer from the liability of reducing our collection of information on actual in-use emissions performance.

Model Year Exemption

The model year exemption is a method used to exempt all new cars from being subject to emission tests until they reach a certain age, typically 4-5 years. This exemption is based on the assumption that new cars are in compliance with applicable emissions requirements and the expectation that they will remain so for several years. As EPA and the public both know, a small fraction of vehicles from each model year do not function as designed, their emissions systems malfunction, and they generate elevated emissions. Consequently, a few vehicles can account for a major portion of the excess in-use emissions and, by clean screening these vehicles by model year, EPA would be ensuring that these vehicles will not be caught in the early years. With new low-emission vehicle technology just appearing on the market nationwide and the effects of nationwide parameters unclear (especially the impact of sulfur levels on catalyst durability), it would be irresponsible for EPA to exempt these vehicles prior to having a solid in-use emissions data set for these new, unproven emissions control technologies.

While this fraction is small for newer vehicles than for older vehicles, equity requires that all vehicles susceptible to higher emissions be tested and repaired. Otherwise, those of us able to afford a new vehicle every five years will never have to visit a state inspection station, while those of less financial means will not be so exempt. In addition, with warranties for emission control systems being limited in duration (not even, at present, matching certification lifetime), they will likely be out of their warranty period when the vehicles are finally subject to I/M testing. Hence emission problems that manufacturers should have been responsible for repairing under warranty would then fall exclusively to consumers to fix out of their own pockets.

In addition, the model year exemption will not provide the Agency, the state or the general public with any new information about emissions from the in-use fleet. Such information is critical for EPA and states to target their limited resources where they can be most useful.

Summary of Comment and Recommendations

- **Remote Sensing Clean Screening.** RSD is most appropriate to help characterize the on-road fleet for emission inventory modeling purposes, auditing of state I/M program effectiveness, or as additional information for high emitter profiling. EPA should allow remote sensing clean screening only after a more thorough verification of its effectiveness and only if the remote sensing testing program meets stringent quality assurance and quality control criteria.

● **Vehicle Emissions Profiling.** Widespread adoption of this scheme and/or model year exemptions will deprive regulators of the in-use emissions data necessary to develop accurate vehicle emissions profiling models. We recommend that vehicle emissions modeling only be used to target vehicles for more stringent testing/repair (i.e., California's high emitter profile model). If low emitter profiling or model year clean screening are allowed, EPA must develop protocols to ensure enough data are collected on a national basis (i.e., a statistically representative sample of vehicle models by model year) to support clean screening of vehicle models. In-use testing data from in-use compliance program testing and from the CAP2000 are unlikely to be sufficient in quantity or representative enough of the on-road fleet to serve as suitable substitutes. Collection of OBD data, if the technology is proven to be a suitable replacement for I/M testing, could in the future be a rich source of in-use emissions information.

- **Model Year Exemptions.** As mentioned above, blanket exemptions of newer model years is problematic from the perspective of data collection. Furthermore, blanket exemptions will essentially mean that malfunctioning vehicles are unlikely to be identified and repaired under warranty. This means that drivers, especially the second owners, will bear increasing responsibility for the cost of repairs. Finally, we question the validity of exempting vehicle technologies of unproven durability (i.e., national low-emission vehicles and future Tier 2 vehicles) based on the current performance of Tier 1 technology vehicles. For instance, it is well known that LEVs are very sensitive to the level of sulfur in gasoline.

Again, we appreciate the opportunity to present our comments. If you have any further questions, please feel free to contact me.

Sincerely,

Roland J. Hwang,
Transportation Program Director