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Ford Motor Company
Environmental and Safety Engineering
Vehicle Environmental Engineering

                                                        The American Road
                                                        Room 250-WHQ
                                                        Dearborn, MI 48121
                                                        July 13, 1998

Mr. Joe Somers
U.S. EPA
Assessment and Modeling Division
2000 Traverwood Drive
Ann Arbor, MI 48105

Dear Mr. Somers:

This letter is in response to your transmittal of the draft "Description and Documentation for Interim Vehicle Clean Screening Credit Utility." Our comments are focused on the three clean screen concepts described in the utility: Remote Sensing, Vehicle Emissions Profiling, and Model Year Exemption.

The benefits associated with a remote sensing clean screening program do not appear to be substantially different from those offered by a five year new vehicle exemption For example. as reported in Table 2 of the draft utility, exempting 37% of the fleet (assuming a regular I'M program using final EPA 1M240 cutpoints) results in credit losses of 5% HC, 1% CO, and 12% for NOx. Comparably, a five year new vehicle exemption would exempt 36% of the fleet at a cost of 6% HC, 7% CO and 7% for NOx. Additionally, remote sensing capabilities may be surpassed by vehicle emission control technology.

Straight model year exemptions have been successfully implemented in some I/M program areas, and appear to be capable of alleviating test lane workload, white producing a minimal loss in I/M program effectiveness A quantitative comparison of a five-year new vehicle and a sample vehicle emitter profile (VEP) exemption strategy was conducted using the clean screen utility and Mobile5b. The exemption rates used in the VEP were taken from the sample pattern detailed in "Table 8" of EPA42O-P-008. Theoretically this distribution may be flawed, in that a vehicle which is in the cleanest 90% of vehicles twelve years old may still be a higher emitter than a vehicle not in the cleanest 60% of those vehicles which are five years old.

The results of the aforementioned comparison are detailed both graphically and numerically in the attached pages. Both the percentage of the fleet exempted and the emission benefits lost due to exemption are extremely close. In addition T-tests were run on the emission rates of the first twelve model years for both the VEP and five year new model exemption scenarios. The results showed that for all three pollutants under both phase-in and final SPA cutpoints, with a 95% level of confidence, the average emission rates were equal.

Using the guidance as it stands now, given equal emissions benefits, and decreased bookkeeping requirements and complexity issues, the five year new model year exemption strategy would be the best alternative for an I/M program. Additional comments are auached. Please feel free to contact me at 313-594-2914 should you have any questions

Sincerely,
D W Berens, Manager
Surveillance and Compliance

Remote Sensing:

Vehicle Emission Control Technology - As fleet emission control technology improves. overall fleet emissions are expected to decrease, possibly slarpassing remote sensing capabilities. Have remote sensing thresholds and lower overnil fleet ernissions been investigated and accounted for in the model?

Clean Screen/High Emirrer Combination - We suspect that states which implement a remote sensing program will want to perform clean screening as well as high emitter identification. Accordingly. we recominend that EPA publish guidance for this combination.

Remote Sensing Credits for Basic I/M Programs - Credits are provided for IM240 testing; however, basic I/M tests were not described. Does EPA have an alternative to determine credit loss for idle testing?

Remote Sensing Site Selection - The utility states that "remote sensing sites must be selected using good engineering practice *in* terms of trarfic flow, road grade. acceleration, speed and other appropriate items." *We* encourage EPA to publish guidance for these items.

Remote Sensing Cutpoints - The utility has specific RSD cutpoints (e.g. 200 ppm HC. 0.5% CO, and 1500 ppm NO_X) to which credit losses are attributed. This may be misleading in that RSD cutpoints actually used may be different from those associated with the credit loss in the model.

Vehicle Emitter Profiling

"Engine family" Description - The utility describes a model developed by Radian which employs a VIN decoder to rank vehicle emitter performance by "engine family." The engine family distinction is based on model year, make, model, engine size. and fuel metering system. However, if the model is not refined enough it may combine engines together (e.g. the Ford Taurus is available with two 3.0L engines. 2-valve and 4-valve versions).

1M240 versus FTP for Vehicle Emissions Profiling - The utility recommends ranking "engine families" based on their probability of failing the I/M test. We believe that vehicles should be ranked on their probability of failing the FTP? test, however, the large number of tests needed make this unlikely.

Vehicle Categorization - Vehicles are categorized (normal emitters, high emitters, very high emitters) based on *FTP* emission standards. The data used in this categorization was generated on the IM240 test. How **WLS** the I/M240 data converted to FTP emission levels?

De-Exempting Vehicles - EPA outlines a procedure to de-exempt vehicles when trying to reduce credit losses based on model year. As this plan is followed, the vehicle emitter profile will approach a straight new vehicle exemption by model year.

Small Sample Site - How will the vehicle emissions profile account for improperly performed tests? For example, we received data from an existing I/M program where a vehicle with only 26 miles emitted 212 g/mi CO. This could potentially skew the data and require clean vehicles to be tcsted.