

**Title:** Four Peer Reviews in Support of EPA's Tier 3 Inventory Process

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**Appendix B:** Elements to be Addressed in the Charge to the Peer Reviewers

This Appendix has been divided into five sections. Each of the four sections which follow addresses individually the products for which EPA has requested an independent peer review.

This first section contains a brief discussion of concerns which apply to all reviewers across all products for peer review.

In their comments, reviewers should distinguish between recommendations for clearly defined improvements that can be readily made based on data or literature reasonably available to EPA and improvements that are more exploratory or dependent on information not readily available to EPA. Any comment should be sufficiently clear and detailed to allow a thorough understanding by EPA or other parties familiar with the analysis or the model. EPA requests that the reviewers not release the peer review materials or their comments to anyone else until the Agency makes its report and supporting documentation public.

If a reviewer has questions about what is required in order to complete this review or needs additional background material, please direct the reviewer to contact the contractor's project manager for this effort. If a reviewer has a question about the EPA peer review process itself, please have the reviewer contact Ms. Ruth Schenk in EPA's Quality Office, National Vehicle and Fuel Emissions Laboratory by phone (734-214-4017) or through e-mail at [schenk.ruth@epa.gov](mailto:schenk.ruth@epa.gov).

#### Appendix B.4 Vehicle High Evaporative Emissions Report (amended 12-2-2011)

*(Note: To be updated by EPA WAM; WAM will forward the file electronically to the contractor to serve as a template from which to prepare a set of directions to each reviewer regarding important aspects of this study which should be addressed in the course of the review.)*

As part of the effort to quantify evaporative emissions from the fleet of gasoline-powered on-road vehicles in the developing MOVES mobile sources inventory model, EPA would like to know the distribution of the mass of evaporative emissions across all vehicles in the fleet. Evaporative emissions occur in light-duty vehicles when volatile components of gasoline are emitted or when raw gasoline leaks from the fuel system and the evaporative emissions control system. To meet the evaporative emissions modeling needs of the MOVES model, EPA and its stakeholders have conducted studies to be able to model these evaporative emissions in MOVES.

This report summarizes EPA's pilot test program to develop a quick, inexpensive test procedure to quantify evaporative emissions from the light-duty fleet in an IM-style (Inspection / Maintenance program) setting. The target population was 50 to 100 vehicles in the Denver area. Vehicles were screened for high evaporative emissions using a newly developed technique, and then subjected to a battery of evaporative tests to determine both the effectiveness of each short test vis-a-vis the other proposed short tests and the standard laboratory evaporative Sealed Housing for Evaporative Determination (SHED) test.

The primary focus of this report is to answer the following question: what field method can serve as a practical and substantially accurate method of identifying high-emitting evaporative emissions vehicles. Innovative methods for measuring and testing real-world evaporative emissions were studied and procedures were developed, to allow the evaporative emission testing of a larger fleet at a later date. The primary requirements in the work assignment specified that the screening method be non-intrusive, quick, inexpensive, not require owner cooperation and correlate well with accepted evaporative measurement techniques, i.e. SHED tests.

Specifically, this study was to determine whether the portable SHED should be used in the larger study as a field version of the standard laboratory SHED to measure hot-soak and gross liquid leak emissions. The data, found in this report, will then be used to develop the design, methods and procedures to be used in a larger High Evap study. The outcome of this earlier study is the development of a detailed work plan for the larger study to be conducted in a non-I/M area that would use the testing methodology identified in this report.