

Appendix B – Program Evaluation Using Remote Sensing Technology

Procedures will follow the 2004 EPA document: “Guidance on Use of Remote Sensing for Evaluation of I/M Program Performance”. This document may be acquired by going to the EPA website: <http://www.epa.gov/otaq/epg/progeval.htm>

Kent and New Castle counties have approximately 400,000 vehicles that are required under Air Regulation 1131 to receive some type of emissions tests. In order to evaluate whether the test failures and subsequent repairs are reducing vehicle air pollution, the Department will conduct a program evaluation using remote sensing technology.

- Contract with Environmental Systems Products, Inc. (ESP) to perform the remote sensing evaluation program.
- ESP equipment : Accuscan Series 4600
- Contractor will provide all necessary equipment and personnel to conduct the remote sensing portion of the evaluation.
- Approximately 100,000 valid remote sensing tests will be performed every two years.
- The Department and the Division will provide emission test records (tailpipe (if any) and OBD results including readiness status), and vehicle registration information.
- The Department will prepare a program evaluation as part of the biennial performance report.

Using the “Comprehensive Method” outlined in the aforementioned EPA guidance, the following procedures will be implemented in gathering data:

1. Using the mobile remote sensing device equipment at various sites in New Castle and Kent counties, vehicle emissions measurements will be made. Of those vehicles that will be requiring an initial emissions test in the next 6 months of the remote sensing measurement, the vehicle measurements will be entered into the database as the Before Test Emissions (BTE).
2. Remote sensing data with vehicle tag photos captured by the remote sensing camera will be matched with inspection data in order to track vehicle emission test cycles for this evaluation.
3. The Before Test Vehicles will be tracked when they come in for their initial and all subsequent emissions test for that cycle for comparison with the BTE measured by

remote sensing. The emissions will be entered into the data base as the I/M Test Emissions (IMTE).

4. The vehicles tracked as IMTE will then be identified during subsequent remote sensing surveys performed during the two year period.
5. Before and after test emissions measured by the remote sensing equipment will be charted. Emission measurement data will be grouped by vehicle model year and EPA vehicle class. Data will be charted according to how many days after final passing emission test.
6. Data analysis will be performed by the Department and presented in the biennial report.