

MOVES Update

Region 4 Regulatory
Modelers Workshop
March 28, 2007

Dale Aspy
EPA Region 4

MOVES



What is MOVES?

- **MO**tor **V**ehicle **E**mission **S**imulator
- Estimates air pollution emissions from highway vehicles and nonroad equipment
- Intended to replace current **MOBILE & NONROAD** models
 - Improve software & science
 - Expand capabilities
 - Analysis at multiple scales
 - Additional pollutants
 - Additional pollutant sources

MOVES Versions

- ✓ **MOVES2004 released**
 - On-road Energy Consumption, GHGs, Life Cycle Analysis
- **Highway Vehicle Implementation**
 - Adds on-road HC, CO, NO_x, PM, Toxics, NH₃, SO₂
 - Final MOBILE6.2 replacement
- **Off-road implementation**
 - Updates to on-road model based on new data
 - Add equipment covered in NONROAD model
 - Also aircraft, commercial marine, locomotive

MOVES Schedule

Spring 2007	-- Post MOVES-HVI Demo -- MOVES training at IEIC conference -- Begin user feedback on input/output
Late 2007, Early 2008	--Complete emission rate analysis --Feedback through FACA work group
Fall 2008	-- Release draft MOVES-HVI
2009	-- Release final MOVES-HVI
2010+	-- MOVES for nonroad engines, aircraft, locomotive & marine

MOVES-HVI Demo

- **Demonstration version of MOVES Highway Vehicle Implementation**
- **A tool for users to learn MOVES input & output structures**
- **Placeholder values for most emission rates**
 - **Not intended to represent actual emission rates**
 - **Not for use in SIPs or conformity determinations**
- **Software improved since MOVES2004**

MOVES-HVI Demo Software Improvements

- Adds pollutants: HC, CO, NO_x, EC, OC & CO₂
- Adds evaporative emissions
- Trip start and soak time processor
- Advanced fuel adjustments
- New post-processor for summary reports
- New pre-processor for IM inputs
- Improved data entry for Alternate Vehicle Fuels & Technology strategy
- Optional gram/mile output by speed-bin

MOVES-HVI Demo More information

- MOVES web site:

<http://www.epa.gov/otaq/ngm.htm>

- MOBILENEWS email list:

<http://www.epa.gov/otaq/models/mobilelist.htm>

- User Guide

- Software Development Reference Manual

Emission Rate Development

Rates	Likely Data Sources	Status
Light Duty HC/CO/NOx	IM program data (AZ, IL, NY, CO) RSD data	Completed QA/QC. Analyzing trends and data differences
Light Duty PM	Kansas City	Completed QA/QC. Analyzing data

Emission Rate Development

Rates	Likely Data Sources	Status
Heavy Duty HC/CO/NOx/PM	E-55 data, other	Analyzing data, particularly deterioration rates
Evaporative HC	CRC data, compliance data, IM data (AZ, CO, MD, NC)	Developed draft rates for “failing” and “passing” cars. Determining appropriate fail & pass rates for IM & non-IM areas.

MOVES Feedback

- **User comments needed ASAP on MOVES-HVI Demo**
- **Initial feedback on MOVES emission rates and other inputs through new FACA workgroup**
 - **Mobile Source Technical Review Subcommittee is forming new MOVES review workgroup**
 - **Workgroup will focus on MOVES data & methodologies**
 - **Simultaneous formal “peer review”**
- **Public comment period begins with release of draft MOVES-HVI in fall 2008**

For Information

<http://www.epa.gov/oms/ngm.htm>

Dale Aspy
aspy.dale@epa.gov
404-562-9041

MOVES

