MOVES 2013 Plans & Directions

MSTRS MOVES Review Work group July 31, 2012

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Outline

- MOVES 2013 Functional improvements
- MOVES 2013 Data updates





MOVES 2013

MOVES2010b (Review)

- A minor revision that does not change emissions focus was on improvements to user features, additional toxics
- Use was recommended; but, optional for SIPs and conformity analyses, no new grace period for conformity
- Released June 2012

MOVES2013

- Major update incorporating new functionality, research and emission standards
- Will be considered a new model for SIP and conformity purposes with a new conformity grace period
- Will include first draft of NONROAD implementation
- Will be able to be applied outside the U.S. (MOVES International)
- Scheduled release target date is mid 2013





Process for Updating MOVES

Collect

- User concerns, recommendations, suggestions
- Problems, potential errors, inaccuracies
- New data for potential inclusion in MOVEs

Analyze

Confirm issue and/or evaluate recommendations

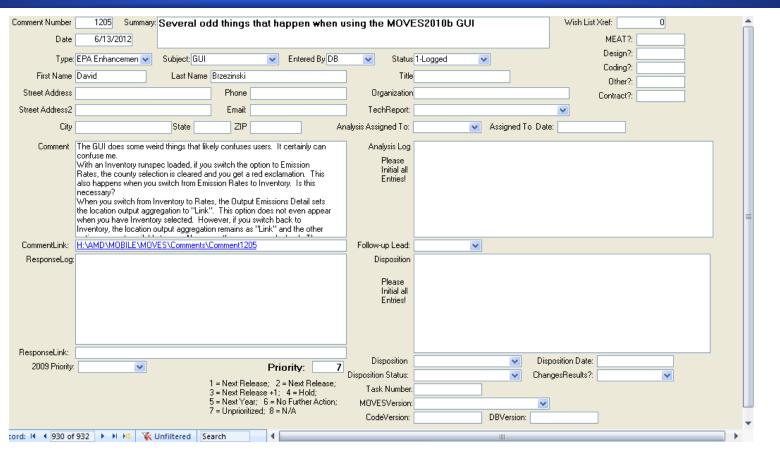
Prioritize

- Based upon impact to user, data accuracy, impact on results
- Schedule for development implementation





Issue/Comment Tracking







MOVES 2013 "Functional" Improvements

Planned and Potential Improvements

- Upgraded diesel "retrofit" processing to allow fleet analysis of retrofit strategies
- Improved evaporative emission processing (e.g. multi day diurnal)
- Incorporate VOC and PM Speciation in MOVES
 - VOC and PM species to be directly compatible with air quality models (CMAQ, CAMx) (i.e. no post-processing required)
- Better Performance
 - Architectural change to order of calculator processing
 - Extensive review of all data base "indexing" to assure best possible speed of access
- Upgraded support for Cloud Computing
 - Release of documentation and programs for processing in the cloud





MOVES 2013 "Functional" Improvements

Planned Improvements (continued)

- Upgraded capability for Windows7/8 testing
- Rate of Progress calculation will be selectable by year
- Miles per gallon calculator will be added to post processing scripts
- Major upgrade for technical documentation (Software Development Reference Manual)
- Improved (simpler) User Guide
- Improved error and warning messages
- Minor GUI improvements (e,g, more default selections)





MOVES 2013 "Functional" Improvements

- Addition of NONROAD draft
 - To be discussed later
- Inclusion of features that will allow MOVES to be used internationally
 - Metric units (e.g. inputting of kilometers)
 - Building emission rates for fleets using new standards (e.g. European standards)
- Resolution of high priority issues ("bugs")





DATA UPDATES





What are we updating?

- New rules
 - New regulations since MOVES2010b
- New data
 - New test programs and analyses
- Data updates
 - Future forecasts (VMT, population, sales)
- Bug fixes
- Updates are dependent on timing of MOVES 2013





Updates: New Rules

- MOVES only includes current regulations, not draft
 - Heavy Duty (HD) Greenhouse Gas MY 2014-2018
 - Finalized August 2011
 - Decrease in heavy duty energy consumption rates
 - Decrease in criteria pollutant emissions as a result of improved aerodynamics and rolling resistance.
 - Increase in criteria emissions from auxiliary power units
 - Light Duty Greenhouse Gas MY 2017-2025
 - Not yet finalized
 - Decrease in light duty energy consumption rates
 - Decreased fuel consumption results in
 - Decrease in sulfur-related (SO2, SO4) emissions
 - Decreased refueling emissions
 - Tier 3
 - Not yet proposed
 - Changes to light duty emission rates.
 - Inclusion is dependent on timing of MOVES 2013 and timing of Tier 3





New Data and Data Updates

Heavy Duty

- In-Use Compliance Program PEMS data
- Houston Port Drayage Study

Evaporative Emissions

- Adding multi-day diurnals
- Leak data from Colorado field study
- Improvements to running loss emissions

Cold Temperature Data

- Test data on new vehicles

Fuel Effects

- Gasoline fuel effects
- E85
- Fuel supply

Activity

- Sales, population and VMT
- Distribution of VMT and starts
 - Instrumented vehicle studies

Other

- Improved speciation of VOC and PM emissions
- Other general updates





Conclusion

- MOVES 2013 will have significant functional upgrades
- MOVES2013 will have significant new data
 - Plan to peer review reports prior to including data
- Release in mid 2013 (tentative)