MOVES2014a Vs MOVES2014b

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EPA MOVES Model

EPA's MOtor Vehicle Emission Simulator (MOVES) is a state-of-the-science emission modeling system for onroad vehicles and nonroad equipment's

MOVES2014b is the latest version of MOVES model

December 2018 is latest updated released for MOVES2014b

As per EPA, MOVES2014b does not significantly change the onroad criteria pollutant emissions results of MOVES2014a

EPA On-Road Models: Historical Perspective

Models	Milestones	Observations
MOBILE6.2	Sep 2003 – Dec 2012	Fast Used engine certified standards
MOVES2010*	Mar 2010 – Dec 2012	Real world (in-use) emissions data Increase in NOx, PM2.5, CO Slight decrease in VOC emissions,
MOVES2010a	Sep 2010 – Jan 2013	Increase in methane Slight decrease in VOC and PM10 emissions
MOVES2010b	Jan 2013 – Oct 2016	Added all Mobile Source Air Toxic (MSAT) pollutants
MOVES2014*	May 2014 – Dec 2015	Tier-3 Rule Activity and emission rate update
MOVES2014a	Dec 2015– Aug 2018	Minor change in VOC, PM2.5 and CO2
MOVES2014b	Aug 2018– Current	Significant improvements in calculating nonroad equipment emissions No changes in onroad criteria emissions

*Conformity Grace Period

Changes Between MOVES2014a & MOVES2014b

Change from MOVES2014a to MOVES2014b	Implication
Update nonroad growth indices.	For most locations and sectors, this change will decrease nonroad equipment populations (and thus emissions), but results vary depending on the economic sector, the state, and the county's base year population.
Update Tier 4 nonroad diesel engine classifications, population splits, speciation, and emission rates.	These changes better account for emissions from large diesel engines with advanced after-treatment. The changes generally decrease future year emissions.
Update nonroad diesel fuel sulfur levels.	These updates affect nonroad emissions for sulfate and PM.
Updates to the CB05 and CB6CMAQ chemical mechanism outputs used for air quality modeling and addition of SAPRC07T output.	These updates provide better linkage with air quality models.
Improved menu and documentation for post-processing scripts.	These improvements should help reduce mistakes in user post-processing of MOVES results.
Updated technical guidance.	More detailed instructions for MOVES users, including clarification that MOVES2014 is not designed to model mid-level ethanol blends, additional language on how to estimate changes in state fuel programs, and information on how to use local information and rates from MOVES2014b to develop county-specific nonroad inventories.

Source- EPA MOVES2014b Questions and Answers

MOVES2014a Vs MOVES2014b – TTI Sensitivity Test

Region	Emissions Inventory Runs	Pollutants Analyzed	MOVES Tables
Dallas-Fort Worth	2017 Air Emissions Reporting Rule	Air Toxics	Rate Per Distance Rate Per Hour Rate Per Profile Rate Per Vehicle Rate Per Start Starts Per Vehicle
El Paso	Elp_NM15Oz Conformity	Criteria Pollutants and GHG	
Houston-Galveston	Redesignation SIP	NO, NO2, Ammonia, Brake and Tire wear	
San Antonio	SAN19mtp Conformity	Criteria Pollutants and GHG	

Findings

Consistent with EPA findings, TTI staff did not see any changes in emissions between MOVES2014a and MOVES2014b

TTI's on-road inventory utilities are compatible with MOVES2014a. TTI will use MOVES2014a (November 2016 release), which for on-road mobile analyses, such as this, produces results equivalent to MOVES2014b (verified by TTI).

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