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## **Development of Drivers and Post-Processing Scripts to Incorporate MOVES2010 Emission Factors with the Smoke Emissions Model**

Christian E. Lindhjem, Allison DenBleyker, Michele Jimenez, and Alison K. Pollack  
ENVIRON International Corporation  
773 San Marin Drive, Suite 2115  
Novato, CA 94998  
[clindhjem@environcorp.com](mailto:clindhjem@environcorp.com)

### ***Abstract***

The MOVES2010 model was released December, 2009, and is now the official regulatory tool to develop on-road vehicle emissions inventories. The objective of this work was to design and implement necessary pre-processors, automated run scripts, and post-processors so that MOVES2010 emission factors could be incorporated into SMOKE for estimating on-road mobile source emissions for regional modeling efforts.

This paper describes the approach used to program automated driver scripts to create input files (called 'runspec' files) and to run the MOVES2010 model to create emission factor lookup tables. The MOVES2010 lookup tables include running ('rateperdistance'), start and parked exhaust and permeation and leaks ('ratepervehicle'), parked vapor venting ('rateperprofile') emission factors. MOVES2010 needs to be run multiple times to account for ambient temperature ranges for representative counties to use with individual county activity data. This paper describes the unique run characteristics for each lookup table, and how the driver script program works.

This paper also describes how the raw data from the MOVES2010 lookup tables are parsed, sorted, and condensed so that SMOKE can read and use them to create regional emissions inventories. MOVES2010 lookup table emission factor outputs are provided in a form not easily read by SMOKE, and this paper describes how those outputs are reformatted for use with SMOKE. The output lookup table postprocessor includes a cross-reference scheme to convert MOVES source (vehicle) and road types to the standard SCC scheme and the MOVES2010 particulate matter speciation to the standard SMOKE speciation.