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ENVIRONMENTAL PROTECTION AGENCY

[FRL-9121-1]

Official Release of the MOVES2010 Motor Vehicle Emissions Model
for Emissions Inventories in SIPs and Transportation Conformity

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of availability.

SUMMARY: EPA is approving and announcing the availability of the Motor Vehicle Emissions Simulator model (MOVES2010) for official use outside of California. MOVES2010 is the state-of-the-art upgrade to EPA's modeling tools for estimating emissions from cars, trucks, motorcycles, and buses, based on analysis of millions of emission test results and considerable advances in the Agency's understanding of vehicle emissions.

Today's notice approves the use of MOVES2010 in official State implementation air quality plan (SIP) submissions to EPA and for certain transportation conformity analyses outside of California. This notice starts a two-year grace period before the MOVES2010 emission model is required to be used in new regional emissions analyses for transportation conformity determinations outside of California. EPA is not approving MOVES2010 for project-level transportation conformity hot-spot analyses at this time; the Agency will approve the model for such analyses in the near future in a separate Federal Register notice when guidance is finalized.

EPA strongly encourages areas to use the interagency consultation process to examine how MOVES2010 will affect future transportation plan and transportation improvement program (TIP) conformity determinations so, if necessary, SIPs and motor vehicle emissions budgets can be revised with MOVES2010 or transportation plans and TIPs can be revised as appropriate prior to the end of the MOVES2010 conformity grace period. EPA also encourages State and local air agencies to consider how the release of MOVES2010 will affect analyses supporting SIP submissions under development.

DATES: EPA's approval of the MOVES2010 emissions model for SIPs and regional emissions analyses for transportation conformity is effective March 2, 2010. As discussed further below, today's approval also starts a two-year transportation conformity grace period which ends on March 2, 2012, after which MOVES2010 is required to be used for new regional emissions analyses for transportation conformity.

FOR FURTHER INFORMATION CONTACT: For technical model questions regarding the official release or use of MOVES2010, please e-mail EPA at mobile@epa.gov or call (734) 214-4636. For questions about SIPs, contact Rudy Kapichak at Kapichak.Rudolph@epa.gov or (734) 214-4574. For transportation conformity questions, contact Meg Patulski at Patulski.Meg@epa.gov or (734) 214-4842.

SUPPLEMENTARY INFORMATION: The contents of this notice are as follows:

- I. What Is MOVES2010?
- II. SIP Policy for MOVES2010
- III. Transportation Conformity Policy for MOVES2010
- IV. Future Notice Approving MOVES2010 for Project-Level Conformity Hot-Spot Analyses

Availability of MOVES2010 and Support Materials

Copies of the official version of the MOVES2010 model, along with user guides and supporting documentation, are available on EPA's MOVES Web site: <http://www.epa.gov/otaq/models/moves/index.htm>.

Guidance on how to apply MOVES2010 for SIPs and transportation conformity purposes, including ``Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes'' (EPA-420-B-09-046, December 2009) and ``Technical Guidance on the Use of MOVES2010 for Emission Inventory Preparation in State Implementation Plans and Transportation Conformity'' (EPA-420-B-09-042, December 2009) can be found on the EPA's transportation conformity Web site at: <http://www.epa.gov/otaq/stateresources/transconf/policy.htm>.

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EPA will continue to update this Web site as other MOVES support materials and guidance are developed.

Individuals who wish to receive EPA announcements related to the MOVES2010 model should subscribe to the EPA-MOBILENEWS e-mail listserver. To subscribe to the EPA-MOBILENEWS listserver, send a blank e-mail to EPA at join-EPA-MOBILENEWS@lists.epa.gov. Your e-mail address will then be added to the list of subscribers and a confirmation message will be sent to your e-mail address. Whenever a message is posted to the EPA-MOBILENEWS listserver by the listserver owner (the Assessment and Standards Division of EPA's Office of Transportation and Air Quality), a copy of that message will be sent to every person who has subscribed. You can remove yourself from the list by sending a blank e-mail to EPA at leave-EPA-MOBILENEWS@lists.epa.gov. This e-mail must be sent from the same e-mail address that you used to subscribe. For more information about the EPA-MOBILENEWS listserver, visit EPA's Web site at <http://www.epa.gov/otaq/models/mobilelist.htm>.

I. What Is MOVES2010?

MOVES2010 is the state-of-the-art upgrade to EPA's modeling tools for estimating emissions from highway vehicles, based on analysis of millions of emission test results and considerable advances in the Agency's understanding of vehicle emissions. Today's notice approves MOVES2010 as EPA's official motor vehicle emissions factor model for

estimating volatile organic compounds (VOCs), nitrogen oxides (NOX), carbon monoxide (CO), direct particulate matter (PM10 and PM2.5) and other precursors from cars, trucks, buses, and motorcycles by State and local agencies for SIP purposes and regional emissions analyses for transportation conformity outside of California. For these purposes, MOVES2010 replaces the previous emissions model, MOBILE6.2, which was released in 2004 (69 FR 28830).\1\

\1\ Today's notice does not affect emissions model requirements within California, where the EMFAC2007 emissions model is currently approved for SIP purposes and for regional emissions analyses and CO hot-spot analyses for transportation conformity (73 FR 3464).

MOVES2010 improves upon MOBILE6.2 in several key respects. For example, MOVES2010 is based on a review of the vast amount of in-use vehicle data collected and analyzed since the release of MOBILE6.2, including millions of emissions measurements from light-duty vehicles. Analysis of this data has enhanced EPA's understanding of how on-road mobile sources contribute to emissions inventories, and has also improved the agency's understanding of the relative effectiveness of various control strategies. MOVES2010 has a database-centered design that allows users much greater flexibility in organizing input and output data. This structure also allows EPA to update emissions data incorporated in MOVES2010 more easily.

MOVES2010 includes the capability to estimate vehicle exhaust and evaporative emissions as well as brake wear and tire wear emissions for criteria pollutants and precursors. However, MOVES2010 does not include the capability to estimate emissions of re-entrained road dust. To estimate emissions from re-entrained road dust, practitioners should continue to use the latest approved methodologies.\2\

\2\ See EPA's notice of availability published in the Federal Register on May 19, 2004, 69 FR 28830-28832. Also see EPA's memoranda: ``Policy Guidance on the Use of the November 1, 2006, Updated to AP-42 for Re-entrained Road Dust for SIP Development and Transportation Conformity,'' August 2, 2007; and ``Policy Guidance on the Use of MOBILE6.2 and the December 2003 AP-42 Method for Re-entrained Road Dust for SIP Development and Transportation Conformity,'' February 24, 2004. These documents are available on EPA's Web site at:
<http://www.epa.gov/otaq/stateresources/transconf/policy.htm>.

II. SIP Policy for MOVES2010

EPA has articulated its policy regarding the use of MOVES2010 in SIP development in its ``Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes'' (EPA-420-B-09-046, December 2009). Today's notice highlights certain aspects of the guidance, but State and local governments should refer to the guidance for more detailed information on how and when to use MOVES2010 in reasonable further progress SIPs, attainment demonstrations, maintenance plans, inventory updates, and

other SIP submission requirements.

Although MOVES2010 should be used in SIP development as expeditiously as possible, EPA also recognizes the time and effort that States have already undertaken in SIP development using MOBILE6.2. SIPs that EPA has already approved are not required to be revised solely based on existence of the new model. States that have already submitted SIPs or will submit SIPs shortly after EPA's approval of MOVES2010 are not required to revise these SIPs simply because a new motor vehicle emissions model is now available. States can choose to use MOVES2010 in these SIPs, for example, if it is determined that it is appropriate to update motor vehicle emissions budgets ('`budgets'') with the MOVES2010 model for future conformity determinations. However, EPA does not believe that a State's use of MOBILE6.2 should be an obstacle to EPA approval for SIPs that have been or will soon be submitted, assuming that such SIPs are otherwise approvable and significant SIP work has already occurred (e.g., attainment modeling for an attainment SIP has already been completed with MOBILE6.2). It would be unreasonable in such cases to require States to revise these SIPs with MOVES2010 since significant work has already occurred, and EPA intends to act on these SIPs in a timely manner.

States should use MOVES2010 where SIP development is in its initial stages or hasn't progressed far enough along that switching to MOVES2010 would create a significantly adverse impact on State resources. For example, States (except California) that will be developing on-road mobile source inventories for 2006 24-hour PM2.5 NAAQS SIPs should base those inventories on MOVES2010. EPA designated nonattainment areas for this NAAQS on November 13, 2009 (74 FR 58688), which should give State and local agencies time to incorporate MOVES2010 into SIP submissions for this NAAQS. MOVES2010 should be incorporated into these and other SIPs, as appropriate, since MOVES2010 emissions estimates are based on the best information currently available, as required by Clean Air Act section 172(c)(3) and 40 CFR 51.112(a)(1).

III. Transportation Conformity Policy for MOVES2010

EPA is establishing a two-year grace period before MOVES2010 is required for new transportation plan and TIP conformity determinations and regional emissions analyses. This grace period begins today and ends March 2, 2012. The remainder of this section describes how the transportation conformity grace period was determined and summarizes how it will be implemented, including those circumstances when the grace period could be shorter than two years. However, for complete explanations of how MOVES2010 is to be implemented for transportation conformity, including details about using MOVES2010 during the grace period, refer to '`Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes'' (EPA-420-B-09-046, December 2009). EPA coordinated closely with the U.S.

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Department of Transportation (DOT) in the establishment of the grace period.

A. Length of Conformity Grace Period

Transportation conformity is a Clean Air Act requirement to ensure that Federally supported highway and transit activities are consistent with ('`conform to'') the SIP. Conformity to a SIP means that a transportation activity will not cause or contribute to new air quality violations; worsen existing violations; or delay timely attainment of the national ambient air quality standards or any interim milestone. Transportation conformity applies in nonattainment and maintenance areas for transportation-related pollutants: ozone, carbon monoxide (CO), PM2.5, PM10, and nitrogen dioxide.

The transportation conformity rule (40 CFR parts 51 and 93) requires that conformity determinations be based on the latest motor vehicle emissions model approved by EPA. Section 176(c)(1) of the Clean Air Act states that ``* * * [t]he determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel, and congestion estimates * * *.''' When EPA approves a new emissions model such as MOVES2010, a grace period is established before the model is required for conformity analyses. The conformity rule provides for a grace period for new emissions models of between three and 24 months (40 CFR 93.111(b)(1)).

EPA articulated its intentions for establishing the length of a conformity grace period in the preamble to the 1993 transportation conformity rule (58 FR 62211):

EPA and DOT will consider extending the grace period if the effects of the new emissions model are so significant that previous SIP demonstrations of what emission levels are consistent with attainment would be substantially affected. In such cases, States should have an opportunity to revise their SIPs before MPOs [metropolitan planning organizations] must use the model's new emissions factors.

In consultation with DOT, EPA must consider many factors when establishing a grace period for conformity determinations, including the degree of change in emissions models and the effects of the new model on the transportation planning process (40 CFR 93.111(b)(2)).

Upon consideration of all of these factors, EPA is establishing a two-year grace period, which begins today and ends on March 2, 2012, before MOVES2010 is required to be used for regional transportation conformity purposes. During this grace period, areas should use the interagency consultation process to examine the impact of using MOVES2010 in their future transportation plan and TIP conformity determinations and regional emissions analyses.

B. Circumstances When Grace Period Will Be Shorter Than Two Years

The grace period will be shorter than two years for a given pollutant if an area revises its SIP and budgets with MOVES2010, and such budgets become applicable for regional conformity purposes prior to the end of the two-year grace period. In this case, the new regional emissions analysis must use MOVES2010 if the conformity determination is based on a MOVES2010-based budget.

Areas that are designated nonattainment or maintenance for multiple pollutants may rely on both MOVES2010 and MOBILE6.2 to determine conformity for different pollutants during the grace period. For example, if an area revises a previously submitted (but not approved) MOBILE6.2-based PM10 SIP with MOVES2010 and EPA finds these

revised MOVES2010 budgets adequate for conformity, such budgets would apply for conformity on the effective date of the Federal Register notice announcing EPA's adequacy finding. In this example, if an area was in nonattainment for PM10 and ozone, the MOVES2010 grace period would end for PM10 once EPA found the new MOVES2010-based SIP budgets adequate. However, MOBILE6.2 could continue to be used for ozone conformity determinations until the end of the MOVES2010 grace period.\3\ EPA Regional Offices should be consulted for questions regarding such situations in multi-pollutant areas.

\3\ In this example, such an area would use MOVES2010 to develop a regional emissions analysis for comparison to the revised MOVES2010-based budgets (e.g., PM10 and NOx budgets). The regional emissions analysis for ozone could be based on MOBILE6.2 for the VOC and NOx budgets in the ozone SIP for the remainder of the conformity grace period.

In addition, if an area revises a previously approved SIP using MOVES2010, the revised MOVES2010 budgets would be used for conformity purposes once EPA approves the MOVES2010 SIP revision, in most cases. In general, submitted SIPs cannot supersede approved budgets until they are approved. However, 40 CFR 93.118(e)(1) allows an approved budget to be replaced by an adequate budget if EPA's approval of the initial budgets specifies that the budgets being approved may be replaced in the future by new adequate budgets. This flexibility has been used in limited situations in the past, such as during the transition from MOBILE5 to MOBILE6. In such cases, the MOVES2010-based budgets would be used for conformity purposes once they have been found adequate, if requested by the State in its SIP submission and specified in EPA's SIP approval. States should consult with their EPA Regional Office to determine if this flexibility applies to their situation.

C. Use of MOVES2010 During the Grace Period

During the conformity grace period, areas should use the interagency consultation process to examine how MOVES2010 will impact their future transportation plan and TIP conformity determinations and any regional emissions analyses. Areas should carefully consider whether the SIP and budgets should be revised with MOVES2010 or if transportation plans and TIPs should be revised before the end of the conformity grace period, since doing so may be necessary to ensure conformity in the future.

Regional emissions analyses that are started during the grace period can use either MOBILE6.2 or MOVES2010. When the grace period ends on March 2, 2012, MOVES2010 will become the only approved motor vehicle emissions model for regional emissions analyses for transportation conformity in States other than California. In general, this means that all new transportation plan and TIP conformity determinations started after the end of the grace period must be based on MOVES2010, even if the SIP is based on MOBILE6.2.

Finally, the conformity rule provides some flexibility for regional emissions analyses that are started before the end of the grace period. Analyses that begin before or during the grace period may continue to rely on MOBILE6.2. The interagency consultation process should be used if it is unclear if a MOBILE6.2-based analysis was begun before the end

of the grace period. If you have questions about which model should be used in your conformity determination, you can also consult with your EPA Regional Office.

IV. Future Notice Approving MOVES2010 for Project-level Conformity Hot-spot Analyses

Today's notice does not approve MOVES2010 for use in transportation conformity hot-spot analyses in PM2.5, PM10, and CO nonattainment and

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maintenance areas.\4\ EPA will approve MOVES2010 for these purposes, and establish a separate two-year conformity grace period, in a subsequent Federal Register notice. Details on how EPA intends to implement MOVES2010 for quantitative CO, PM2.5, and PM10 hot-spot analyses can be found in ``Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes'' (EPA-420-B-09-042, December 2009).

\4\ In CO nonattainment and maintenance areas, a hot-spot analysis is required for all non-exempt projects, with quantitative hot-spot analyses being required for larger, congested intersections and other projects (40 CFR 93.123(a)(1)). In addition, the conformity rule requires that a quantitative PM10 or PM2.5 hot-spot analysis be completed for certain projects of local air quality concern once EPA releases modeling guidance and announces in the Federal Register that the PM10 and PM2.5 quantitative hot-spot analysis requirements are in effect (40 CFR 93.123(b)). In coordination with DOT, EPA is currently preparing guidance on how to conduct quantitative PM2.5 and PM10 hot-spot modeling to implement this requirement.

Dated: February 24, 2010.
Margo Tsirigotis Oge,
Director, Office of Transportation and Air Quality.
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