



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219 2000

David S. Ekern, P.E.
COMMISSIONER

February 27, 2009

Mr. Edward Sundra
Federal Highway Administration
Post Office Box 10249
Richmond, Virginia 23240-0249

Re: Project-Level Carbon Monoxide Air Quality Studies Agreement

Dear Mr. Sundra:

The purpose of this letter is to update the August 4, 2004 Project Level Air Quality Studies Agreement between the Virginia Department of Transportation (VDOT) and the Federal Highway Administration (FHWA). The update is based upon extensive experience conducting air quality studies for projects implemented within the Commonwealth of Virginia as well as updated worst-case modeling results for carbon monoxide (CO). The Agreement is executed upon the signature of both parties on the attached signature page (see Attachment 1).

Experience conducting project-level air quality studies has shown that, with the continued implementation of more stringent vehicle emission and fuel quality standards across the nation and within the Commonwealth over the past couple of decades, mobile source emissions and ambient concentrations of CO have been reduced to the extent that detailed studies are not appropriate for many smaller projects. This agreement continues our effort to streamline analysis requirements for projects of limited scope or expected impact, based on worst-case modeling results for such projects, and is consistent with that demonstrated success.

Updated worst-case modeling results for CO were generated following applicable U.S. Environmental Protection Agency (US EPA) and FHWA guidance and included the application of interface models developed and released by the FHWA in the time since the 2004 Agreement was executed. More specifically, the estimates for CO emission factors were generated with the US EPA model MOBILE6.2 as invoked by the new FHWA interface model, *EMIT* (2007 release version). The dispersion modeling results were generated with the US EPA models CAL3QHC/CALINE3 as invoked by the new FHWA interface model, *Cal3Interface* (October 2008 release version).

Based on this experience and the updated worst-case modeling results, and in keeping with existing federal regulations and requirements, the following procedures and thresholds are

recommended for air quality studies for CO for transportation improvement projects implemented within the Commonwealth of Virginia:

- A. Projects that do not change (add, remove or relocate) roadway capacity or transit services do not require either qualitative or quantitative project-level air quality analyses.
- B. Projects meeting one of the following criteria require only a qualitative analysis. The qualitative analysis, represented by a uniform statement (see Attachment 2), will be included in the Categorical Exclusion or Environmental Assessment for:
 1. Any project that is exempt from the requirement to determine conformity under the federal transportation conformity rule,
 2. Any project that qualifies for a Programmatic Categorical Exclusion (PCE) according to the PCE Agreement in effect between the FHWA and VDOT,
 3. Any project affecting capacity for roadways without intersections or interchanges for which the build scenario design year Level of Service (LOS) is E or better (or reasonable proxy thereof) and the corresponding average daily traffic (ADT) does not exceed 59,000, or
 4. Any project affecting capacity for roadways with intersections and/or freeway interchanges for which the build scenario design year intersection/freeway interchange LOS is E or better (or reasonable proxy thereof) and the corresponding ADT does not exceed the following levels for the roadway being improved as part of the project or any intersecting roadway within the project area:
 - (i) 59,000, for intersections and freeway interchanges for which the minimum skew angle (defined here as the smallest angle modeled between intersecting roadways in a reasonable representation of the intersection or interchange selected for air quality analysis following applicable state and federal guidance) is 60 degrees or more,
 - (ii) 49,000, for skew angles from 45 degrees up to (but not including) 60 degrees, or
 - (iii) 39,000, for skew angles from 30 degrees up to (but not including) 45 degrees.
- C. A quantitative analysis will be required for projects meeting one or more of the following criteria:
 1. Any project that does not meet any of the criteria under paragraphs A or B above;
or
 2. Any project for which an Environmental Impact Statement is prepared;
- D. For projects requiring a quantitative CO analysis, the following models will be applied:
 1. For emissions modeling, the latest model approved by the US EPA for application in State Implementation Plans and agreed by FHWA for project-level analyses, which is currently MOBILE6.2 but is expected to be updated presently to a next generation model.

2. For dispersion modeling, the latest model approved by the US EPA and agreed by FHWA for application in project-level analyses, which is currently CAL3QHC for projects for which intersections or queuing vehicles are to be modeled and CALINE3 for other roadway projects, both of which may also be updated or superseded by other models.
3. For both emission and dispersion modeling, interface models issued by the FHWA, including EMIT and Cal3Interface as well as any future releases, updates or replacements thereto, may be applied at the discretion of VDOT.

This agreement, once approved, replaces the agreement currently in place. However, it will not alter previously granted approvals or apply to projects for which a project-level air study is already underway.

Sincerely,



Stephen Long
State Environmental Administrator

Attachments

1. Signature page to the Agreement
2. Qualitative Project-Level Air Quality Statements
3. Technical Support Document, February 2009

FHWA-VDOT Project-Level Air Quality Studies Agreement

By signature below, we indicate our agreement with the thresholds and procedures to streamline project-level carbon monoxide air quality analyses for projects implemented within the Commonwealth of Virginia as specified in the letter dated February 27, 2009 from the Virginia Department of Transportation to the Federal Highway Administration detailing the "Project-Level Carbon Monoxide Air Quality Studies Agreement".



Edward Sundra
Planning and Environment Program Manager

2/27/09

Date



Stephen Long
State Environmental Administrator

2/27/09

Date

Qualitative Project-Level Air Quality Statements

Projects That Qualify as Exempt and/or for Programmatic Categorical Exclusions

The project is identified as being exempt from the requirement to determine conformity according to the federal transportation conformity rule and/or qualifies for a Programmatic Categorical Exclusion (PCE) according to the PCE Agreement in effect between the Federal Highway Administration and the Virginia Department of Transportation. Accordingly, it is concluded that the project would not significantly impact air quality and would not cause or contribute to a new violation, increase the frequency or severity of an existing violation, or delay timely attainment of any National Ambient Air Quality Standard.

Traffic Volume, Skew Angle, and Level of Service

The project does not include or directly affect any roadway whose design year average daily traffic volume, skew angle or level of service would exceed the threshold criteria specified in the Agreement between the Federal Highway Administration and the Virginia Department of Transportation for streamlining the project-level air quality analysis process for carbon monoxide. Modeling using “worst-case” parameters has been conducted for these thresholds and it has been determined that projects, such as this one, for which the thresholds would not be exceeded would not significantly impact air quality and would not cause or contribute to a new violation, increase the frequency or severity of an existing violation, or delay timely attainment of the National Ambient Air Quality Standards for carbon monoxide.