DRAFT
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8-HOUR OZONE STANDARD CONFORMITY ASSESSMENT

SCOPE OF WORK

Supplement to the Air Quality Conformity Assessment of the 2004 Constrained Long Range Plan Amendments and FY2005-2010 Transportation Improvement Program

I. INTRODUCTION

On April 15, 2004 the Environmental Protection Agency (EPA) designated 474 counties that exceeded the health-based standards for 8-hour ozone as non-attainment areas. The 8-hour ozone standard, 0.08 parts per million (ppm), averaged over eight hours, replaces the 1-hour standard of 0.12 ppm, measured in hourly increments, that has been in place since 1979. The EPA classified each ozone non-attainment area based on the severity of its ozone problem. The agency created five areas of classification: marginal, moderate, serious, severe, and extreme. The Washington, DC-MD-VA area was designated moderate. Areas with a classification of moderate must achieve attainment status by June 15, 2010. Non-attainment areas are required to submit to EPA a state implementation plan (SIP) to define the expected method for reducing the ozone level in the air and emissions of ozone precursors.

On July 1, 2004 the EPA published the final rule for the transportation conformity under the new 8-hour ozone standard. There are four potential scenarios into which each non-attainment area can be categorized: *Scenario 1*- Areas where the 8-hour ozone area boundary is exactly the same as the 1-hour ozone area boundary; *Scenario 2*- Areas where the 8-hour boundary is smaller than the 1-hour boundary, (*i.e.*, the 8-hour area is completely within the 1-hour area); *Scenario 3*- Areas where the 8-hour boundary is larger than the 1-hour boundary (*i.e.*, the 1-hour area is completely within the 8-hour area); and *Scenario 4*- Areas where the 8-hour boundary partially overlaps the 1-hour area boundary. The Washington DC-MD-VA non-attainment area falls under *Scenario 2*, with Stafford County in the 1-hour boundary, but not in the 8-hour boundary.

In *Scenario 2* areas, conformity must generally be shown using one of the following two versions of the budget test: *Option 1*- Use revised 1-hour budgets for the 8-hour area, removing the extra areas' (for this region, Stafford County) emissions from budgets and from updated CLRP/TIP emissions estimates, *Option 2* – Use the existing 1-hour budgets for the 1-hour area, retaining all (including Stafford County) emissions in both the budgets and the updated CLRP/TIP emissions. The consultation process must determine the choice between *Option 1* and *Option 2*. Staff recommends *Option 2* because Stafford County is the second fastest growing county in the region, so *Option 2* is the more stringent test. Additionally, less calendar time is

needed for *Option 2* than for *Option 1* because there would be no need to develop revised budgets and emissions that exclude Stafford County.

For either *Option,* the 8-hour ozone standard for a "moderate" area requires an analysis of the 2010 attainment year. The region must demonstrate that the plan and program conform to the new 8-hour requirements by June 15, 2005 or suffer a lapse. Because the conformity requirements for this analysis were not specified when COG/TPB staff developed the original scope of work for the air quality conformity assessment of the 2004 Constrained Long Range Plan (CLRP) and the FY2005-2010 Transportation Improvement Program (TIP), a supplemental work plan is necessary.

This scope of work presents an outline of the work tasks to address the conformity requirements of the 8-hour ozone standards; it supplements the ongoing work activities directed at the 1-hour standards to ensure that all requirements are addressed in performing the Air Quality Conformity Assessment of the 2004 CLRP and FY2005-2010 TIP.

II. REQUIREMENTS AND APPROACH

A. **Criteria** (See Exhibit 1)

As described in the 1990 Clean Air Act Amendments, conformity is demonstrated if transportation plans and programs:

1. Are consistent with most recent estimates of mobile source emissions,

2. Provide expeditious implementation of TCMs, and

3. Contribute to annual emissions reductions.

B. **Approach** The analytical approach is similar to that applied and documented in the development of the Washington area's severe area ozone SIP. In addition to the highlighted elements below, explicit inputs include: a summary list of major policy and technical input assumptions, shown as Attachment A; and all transportation network elements which were finalized at the April 21, 2004 TPB meeting and supplemented, in September, 2004, to clarify completion dates for a 2010 forecast year.

1. The use of *Option 2* (retaining Stafford County in both budgets and emissions estimates).

2. Regionally significant projects

3 Round 6.4A Cooperative Forecasts

4. Expanded cordon (2191 zone) networks and model set (Methodology as described in the Metropolitan Washington Council of Governments, COG/TPB Travel Forecasting Model, Version 2.1/TP+, Release D, Report. Refinements to Version 2.1 Release C addressed in Version 2.1 Release D include:

   - use of updated toll analysis methods
   - updated speed / capacity tables
   - revised volume delay function for freeways
   - minimized model adjustment factors
   - bus speed / highway congestion relationships
   - speed feedback revisions to ensure consistency of travel speeds throughout the process

5. MOBILE6.2 model emission factors, consistent with the procedures utilized to establish the latest VOC and NOx mobile source emissions budgets within the severe area SIP

6. Refinements developed as part of the SIP include: use of 2002 vehicle registration data for all jurisdictions; updated VMT mix procedures using national trends in vehicle fleet characteristics together with local data on light duty versus heavy duty vehicle use; updated databases for public transit and school buses, park and ride lot use, and travel on local roads; and post-processor estimation

7. VOC and NOx emissions budgets

8. MSA-based geography

III. CONSULTATION

1. Execute TPB consultation procedures as outlined in the consultation procedures report adopted by the TPB on May 20, 1998.

2. Participate in meetings of MWAQC, its Technical Advisory Committee and its Conformity Subcommittee to discuss the scope of work activities, TERM development process, and other elements as needed; discuss at TPB meetings or forums, as needed, the following milestones:

   - Project solicitation
   - Scope of work
   - TERM proposals
   - Project submissions: documentation and comments
   - Analysis of TERMs, list of mitigation measures
   - Conformity assessment: documentation and comments
   - Process: comments and responses

IV. WORK TASKS

1. Receive clarification of project completion dates in the 2004 CLRP / FY2005-2010 TIP conformity table to ascertain that inputs for the 2010 forecast year network are appropriate.

   - No change to previously defined forecast year networks (2005, 2015, 2025, 2030)

2. Utilize Round 6.4A Cooperative Forecasts

   - Households by auto ownership, population and employment
   - Zonal data files

3. Utilize 1990 and 2002 base conditions developed in the severe area SIP process; utilize 2005, 2015, 2025, and 2030 conditions developed in the 1-hour ozone conformity assessment of the 2004 CLRP and FY2005-2010 TIP.

4. Prepare 2010 highway and transit networks

   - Update highway database
   - Update GIS highway network
   - Filter database to create 2010 highway network
   - Rebuild network for modeling
   - Update / edit transit files

5. Prepare 2010 ozone attainment year travel and emissions estimates

   - Execute travel demand modeling
   - Perform transit "capacity constraint" procedures
   - Apply Mobile6.2 emission factors based upon 2004 CLRP work
   - Calculate emissions

6. Analyze results of above technical analysis

   - Reductions from 1990 and 2002 base
   - VOC and NOx emissions budgets
   - With review by the Travel Management Subcommittee, the Technical Committee and the TPB, identify and recommend additional measures should the plan or program fail any test and incorporate

7. Assess conformity and document results in a report

   - Document methods
   - Draft conformity report
   - Forward to technical committees, policy committees, and EPA

- Make available for public and interagency consultation
- Receive comments
- Address comments and present to TPB for action
- Finalize report and forward to FHWA, FTA and EPA

V. SCHEDULE

The schedule for the execution of these work activities is shown in Exhibit 2, attached. This schedule shows the adoption of the 8-hour conformity determination by the TPB in January, which allows sufficient time for distribution, review and final approval by the EPA, FHWA, and FTA in order to meet the June 15, 2005 deadline for avoiding a conformity lapse.

Exhibit 1

Conformity Criteria

All Actions at all times:

Sec. 93.110	Latest planning assumptions.
Sec. 93.111	Latest emissions model.
Sec. 93.112	Consultation.

Transportation Plan:

Sec. 93.113(b)	TCMs.
Sec. 93.118 or Sec. 93.119	Emissions budget or Emission reduction.

TIP:

Sec. 93.113(c)	TCMs.
Sec. 93.118 or Sec. 93.119	Emissions budget or Emission reduction.

Project (From a Conforming Plan and TIP):

Sec. 93.114	Currently conforming plan and TIP.
Sec. 93.115	Project from a conforming plan and TIP.
Sec. 93.116	CO and PM10 hot spots.
Sec. 93.117	PM10 control measures.

Project (Not From a Conforming Plan and TIP):

Sec. 93.113(d)	TCMs.
Sec. 93.114	Currently conforming plan and TIP.
Sec. 93.116	CO and PM10 hot spots.
Sec. 93.117	PM10 control measures.

Sec. 93.110 Criteria and procedures: Latest planning assumptions.

The conformity determination must be based upon the most recent planning assumptions in force at the time of the conformity determination.

Sec. 93.111 Criteria and procedures: Latest emissions model.

The conformity determination must be based on the latest emission estimation model available.

Sec. 93.112 Criteria and procedures: Consultation.
Conformity must be determined according to the consultation procedures in this subpart and in

the applicable implementation plan, and according to the public involvement procedures established in compliance with 23 CFR part 450.

Sec. 93.113 Criteria and procedures: Timely implementation of TCMs.

The transportation plan, TIP, or any FHWA/FTA project which is not from a conforming plan and TIP must provide for the timely implementation of TCMs from the applicable implementation plan.

Sec. 93.114 Criteria and procedures: Currently conforming transportation plan and TIP.

There must be a currently conforming transportation plan and currently conforming TIP at the time of project approval.

Sec. 93.115 Criteria and procedures: Projects from a plan and TIP.

The project must come from a conforming plan and program.

Sec. 93.116 Criteria and procedures: Localized CO and PM10 violations (hot spots).

The FHWA/FTA project must not cause or contribute to any new localized CO or PM10 violations or increase the frequency or severity of any existing CO or PM10 violations in CO and PM10 nonattainment and maintenance areas.

Sec. 93.117 Criteria and procedures: Compliance with PM10 control measures.

The FHWA/FTA project must comply with PM10 control measures in the applicable implementation plan.

NOTE: See EPA's August 15, 1997 conformity regulations for the full text associated with each section's requirements.

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Exhibit 2

PROPOSED 8-HOUR OZONE STANDARD SUPPLEMENT TO THE YEAR 2004 CLRP AND FY 2005-2010 TIP AIR QUALITY CONFORMITY SCHEDULE

September 3, 2004	TPB Technical Committee Reviews Draft Work Scope and Conformity Project Input Table
*September 15, 2004	TPB Releases Draft Work Scope and Project Inputs for Public Comment and Inter-Agency Review
*October 20, 2004	TPB Reviews Public Comments, Approves Draft Scope of Work and Project Submissions for Inclusion in the 8-Hour Air Quality Conformity Analysis
*December 15, 2004	TPB Receives Briefing on, and Releases Draft 8-Hour Air Quality Conformity Determination for Public Comment and Inter-Agency Review
*January 19, 2005	TPB Reviews Public Comments on Draft Document, Approves Responses to Comments, and Adopts the 8-Hour Air Quality Conformity Determination

*TPB Meeting

WORK SCOPE ATTACHMENT A

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POLICY AND TECHNICAL INPUT ASSUMPTIONS
8-HOUR OZONE STANDARD CONFORMITY ASSESSMENT

1. Land Activity
   - Round 6.4A Cooperative Forecasts

2. Policy and Project Inputs
   - Highway, HOV and transit projects and operating parameters
   - Financially constrained project submissions advanced by the TPB on 4/21/2004, and supplemented, in September, 2004, to clarify completion dates for a 2010 forecast year.

3. Travel Demand Modeling Methods
   - 'Version 2.1 D' Travel Model
   - I-66 (inside the beltway) at HOV-3 in 2010
   - Transit "capacity constraint" procedures

4. Emission Factors
   - Emission factors methods as developed and applied in the SIP and in the 2004 CLRP conformity process: MOBILE6.2, 2002 registration data, VMT mix specific to each analysis year
   - Enhanced I/M in DC, MD, and VA, using state-specified standards

5. Emissions Modeling Methods / Credits
   - Updated post-processor methods as developed in the 1-hour 2004 CLRP
   - Offline emissions analyses

6. Conformity Assessment Criteria
   - 8/15/97 EPA regulations (as modified by the 3/2/99 court decision and subsequent guidance), including 1/1/95 technical requirements, and 7/01/04 EPA regulations stating the transportation conformity rule amendments for the new 8-hour ozone standards; use of severe area SIP mobile source emissions budgets
   - Analysis years: 2005, 2010, 2015, 2025, 2030