Revised DRAFT: January 28, 2011
Regional Air Quality Council Ozone SIP 2010 Progress Report to the Governor

1. Executive Summary

RAQC Historical Background

The Regional Air Quality Council (RAQC) was formed in 1989 by Executive Order of the Governor to serve as the lead agency for air quality planning in the seven-county Denver region. As lead planning agency for air quality, the RAQC frames and develops proposed plans (State Implementation Plans or "SIP"s) for protecting air quality and forwards them to the Colorado Air Quality Commission (AQCC) for consideration and approval. Since 1989, the RAQC has successfully developed SIPs for carbon monoxide, PM-10 and ozone (smog), as required by the federal Clean Air Act Amendments of 1990. Through the coordinated efforts of the RAQC, the State of Colorado, local governments, private businesses, and the public, the region has made significant progress in improving air quality and achieving federal air quality standards.

2009 Governor's Executive Order and RAQC's Updated Mission

In March, 2009, Governor Ritter signed Executive Order B 002 09 (See Attachment XX) recreating and reauthorizing the RAQC. This Executive Order acknowledged the need for the RAQC to make a concerted effort to reduce emissions from vehicles, reduce vehicle miles traveled and other measures that yield emission reductions from the transportation sector, and to do so working more closely with key state partners: The Colorado Department of Public Health and Environment (CDPHE) and the Colorado Department of Transportation (CDOT), the Colorado Department of Local Affairs (DOLA), as well as local and regional leaders of all sectors who serve on the RAQC itself.

The RAQC has a number of prescribed responsibilities defined in the Executive Order, including convening discussions with CDOT, CDPHE, the Denver Regional Council of Governments, the North Front Range Transportation and Air Quality Planning Council, affected municipal and county governments, transit agencies, and others, as appropriate. These discussions are designed to identify, assess and choose from a wide range of strategies that might be available to reduce ozone and greenhouse gas emissions, including those that are being used or tested elsewhere in the country.

Ozone Pollution and Federal Public Health Protection

Inhaling ground-level ozone can result in a number of health effects that are observed in broad segments of the population. Some of these effects include: induction of respiratory symptoms, decrements in lung function and inflammation of airways. Respiratory symptoms can include: 1) coughing; 2) throat irritation, pain, burning, or discomfort in the chest when taking a deep breath; and, 3) chest tightness, wheezing, or shortness of breath.

The Environmental Protection Agency (EPA) is responsible for establishing and periodically updating the federal public health standards, including the standard for ozone. EPA relies on an independent team of expert scientists known as Clean Air Science Advisory Committee (CASAC) for advice in setting appropriate health-based air quality standards.

EPA initially lowered the 8-hour ozone standard from 0.084 parts per million (ppm) to 0.075 ppm in 2008. Then, in 2010, EPA reconsidered the 2008 standard and proposed a further tightening of this standard to a range between 0.060-0.070 ppm. EPA originally announced its intention to promulgate the new standard in August 2010, but recently announced a delay to July 31, 2011 so that the agency can garner further input and clarification from CASAC. EPA predicts that a new standard in the proposed range would help prevent up to 12,000 premature deaths, 58,000 cases of aggravated asthma and save up to $100 billion dollars in health costs.

Regardless of where within the 0.060 to 0.070 ppm range EPA sets the new ozone standard, meeting it will require unprecedented efforts not only for Colorado, but throughout the United States. Figures 1 and 2 present a map of Colorado's current ozone nonattainment area, as well as the region's compliance trends and status.

Given our current compliance status, the region's efforts to reach ozone attainment will have to be aggressive. They will need to include consideration of strategies to reduce emissions of ozone precursors from stationary sources, the transportation sector, and other source categories. Unless EPA delays its ozone standard implementation schedule, the RAQC must provide a proposed ozone SIP to the AQCC by mid 2012, the AQCC must act upon it by December 2012, and, in 2013, the General Assembly must review it and the Governor must submit it to EPA for approval.

Ozone SIP Planning

Ozone SIP planning is presently the RAQC's highest and most challenging priority. With Colorado's growing population, vehicle use and industrial activity, and as EPA tightens the 8 hour ozone (smog) standard, maintaining compliance with this public health-based standard has been a continuing challenge. While the Denver/North Front Range region made progress managing ozone pollution, it nonetheless did fall out of compliance with the 1997 ozone standard during the summer of 2007. EPA officially designated the region "nonattainment" in November 2007. In December 2008 the AQCC approved a new ozone attainment plan to demonstrate attainment with the 1997 standard. This plan was framed and developed by the RAQC with extensive input from stakeholders and technical support from the Colorado Department of Public Health (CDPHE) Air Pollution Control Division (APCD). This SIP is pending EPA approval in early 2011.

What happens if the region does not demonstrate attainment of the ozone standard? While there are certainly costs associated with meeting the federal health based ozone standard, there are also very real costs if the region does not meet the standard. Not

only does the Clean Air Act give EPA the authority to withhold federal funding for the Colorado Air Pollution Control Division program (which the Agency recently did so for a brief time period due to Regional Haze nonattainment), but it gives EPA the choice to take over Colorado's air quality program, tighten pollution source requirements (requiring LAER and BACT) (*in some cases must tighten them*) and withhold federal highway funding. Additionally, the United Stated Department of Transportation (USDOT) can withhold federal transportation funding.[1]

By way of example of what EPA can do if the Denver region does not demonstrate attainment via a SIP, in early 2010 EPA Region 8 informed CDPHE that it would withhold slightly over $1M because the EPA did not think Colorado could submit an approvable Regional Haze SIP by the Jan. 15, 2011 deadline. EPA would have used these funds to hire a contractor to prepare a Regional Haze Federal Implementation Plan – a much greater cost than what CDPHE actually needed to prepare the SIP. This action would also have lead to other CDPHE air program elements being cut. While EPA did withhold the funds for a period of time, it eventually released them to CDPHE in August, 2010 only after extensive work and negotiations to reach an agreement that outlined how CDPHE would "fix" the Regional Haze SIP.

2010 RAQC Activities

The newly constituted RAQC's 2010 work program was ambitious. It was also unlike previous RAQC efforts involving development of a proposed SIP. It was designed to position the RAQC Board to guide staff priorities on ozone SIP development through the completion in 2012 of the proposed SIP. It was also designed to ensure that a broad list of innovative and traditional emission control strategies are fully considered by the RAQC Board before the RAQC begins selecting ozone SIP control strategies. To this end, the majority of the RAQC's 2010 time was spent learning about ozone reduction strategy options, including those employed elsewhere in the country, and preliminarily assessing them for their timeliness, feasibility and practicality. Importantly, efforts were made not only to involve representatives from key groups (Air Quality Control Commission, Denver Regional Council of Governments, the Metro Mayor's Caucus, North Front Range Metropolitan Planning Organization, the Public Utilities Commission, E.P.A., etc) in the RAQC's activities, but also to reach out them via RAQC Chair presentations to these key groups.

In keeping with the Governor's Executive Order, the RAQC 2010 work program emphasized discussion and evaluation of certain potential ozone control measures and their co-benefits. More specifically, discussions involved motor vehicles, motor vehicle fuels, alternative transportation, land use and transportation pricing. It did so, in part, by breaking into several key subcommittees and producing preliminary assessments of

[1] These are Clean Air Act requirements and terms: LAER=Lowest Achievable Emission Rate. BACT=Best Available Control Technology.

each strategy, taken from a master list developed by staff and shaped by the RAQC Board.

Staff also kept the RAQC Board updated on ongoing related technical and policy activities affecting the work of the RAQC (e.g. Regional Haze SIP, Clean Air Clean Jobs Act, Fuels Study, emission inventories, air quality modeling, and EPA activities/announcements involving ozone SIP development).

Key 2010 Recommendations

At the close of 2010, the RAQC Board made several key recommendations based on the results of its work and as presented in detail in this report. They are as follows and should be viewed as "living", since important factors such as what the final ozone standard will be, when it will become effective, and how EPA will guide its implementation remain unconfirmed:

1. In early 2011 prioritize and conduct further analysis on select ozone control measures which were preliminarily assessed in 2010.

2. Engage EPA as soon as possible to obtain their views on the ability of and means by which emission control measures preliminarily assessed in 2010 could: (a) receive (and take full) credit in the ozone SIP; (b) be used to reduce the emission baseline in the ozone SIP; and/or, (c) demonstrate long term maintenance of the ozone standard. Thereafter, discuss how EPA's views affect the RAQC's ozone SIP development strategy.

3. Continue to collaborate with and directly involve key interests and leaders (e.g. business, environmental, public health, local and regional government, state Commissions) during 2011 RAQC meetings, taking steps to reach out to them at strategic moments.

4. As work progresses, continue to develop an understanding of and an emphasis on the co-benefits (e.g. energy consumption, climate, traffic congestion, economy, public health, quality of life and livability, brown cloud and other air pollution concerns) of reducing ozone pollution.

5. Building on ongoing work at CDPHE and the RAQC, assess all stationary source and area source emission reduction strategies (see Attachment XX) in a manner consistent with other strategies assessed in 2010.

6. Update and improve air quality modeling used to develop the ozone SIP, taking into consideration 2010 input from modeling experts, and hold a follow-up modeling forum in 2011.

7. Keep the RAQC informed of related activities affecting ozone SIP development (e.g. Regional Haze SIP, HB 1365 implementation, proposal and adoption of federal emissions control measures, etc.).

8. By year end, position the RAQC Board to have a working sense of the magnitude of needed ozone reductions by preliminarily identifying ozone strategies for 2013 SIP and determining further 2012 analysis needed.

Next Steps

The *2011 Meeting Framework* is designed to implement the RAQC 2010 recommendations and present "Next Steps". **This document is contained in Attachment F.** Its underlying goals are to:

- Position the RAQC to begin bracketing measures to include in or exclude from the ozone SIP;
- Keep the momentum, interest in, and understanding of the RAQC's work;
- Continue to provide an avenue for expert advice and perspective from those with ozone nonattainment experience;
- Under the leadership of RAQC existing Subcommittees, refine assessments with further analysis as well as input from all sectors and EPA
- Employ analytical tools and existing data to advance understanding of the magnitude of ozone reductions needed

Figure 1: Denver Metro/North Front Range Ozone Nonattainment Area

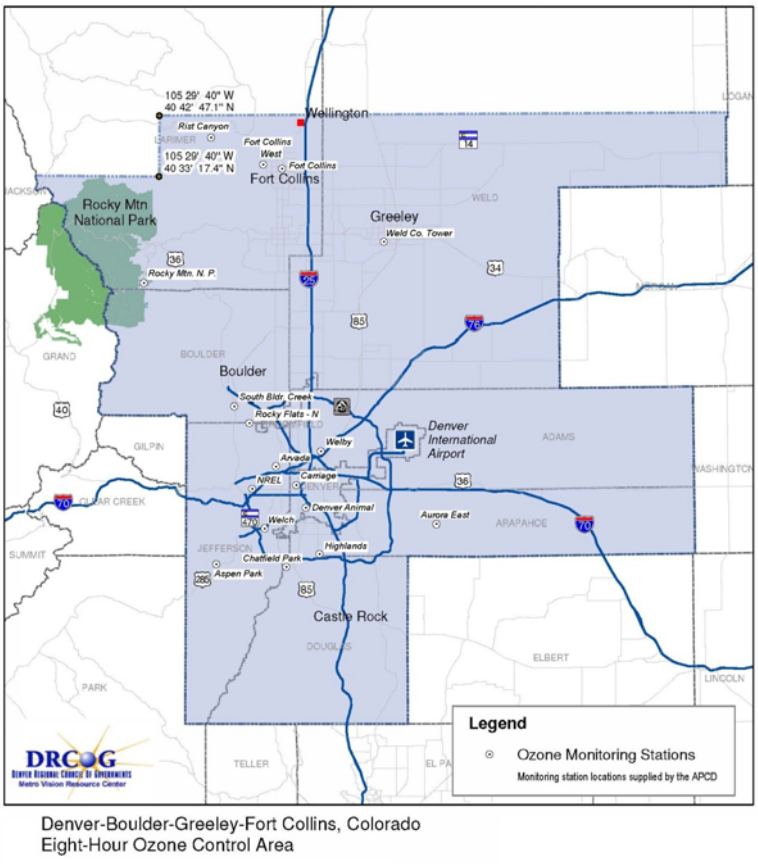

Figure 2: 8-hour Ozone Compliance Trends and Status