Future Year Ozone Modeling in the Denver Metro/Northern Front Range Region

Regional Air Quality Council Meeting

February 5, 2009

Background

- Governor's Directive
  - Prepare a Plan for AQCC review to address the 0.08 ppm NAAQS for 8-hour ozone by Sept. 2008
    - 2010 SIP modeling completed in 2008
    - Ozone Action Plan approved by AQCC in December
  - Consider additional strategies that may be necessary to achieve the new 8-hour ozone NAAQS of 0.075 ppm
    - Future year modeling (2015/2020) deferred until 2009

Future Strategy Analysis

- The Ozone Action Plan delineates a number of potential areas of control for evaluation, including
  - Fuels
  - Statewide oil & gas regulations
  - Large NOx sources
  - California Paints/Solvents/Consumer Products rule

Regulatory Requirements

- On March 12, 2008, EPA promulgated a new 0.075 ppm 8-hour ozone NAAQS with SIPs due by March 2013
  - Preliminary 2015/2020 modeling
  - Investigate potential modeling improvements
  - Evaluate potential strategies
- State must submit completed Regional Haze Reasonable Progress SIP by December 2009
  - Requires understanding of impact of potential controls for large NOx sources on regional ozone
  - Proposed plan by summer 2009

Future Year Ozone Modeling Phase I Budget/Schedule

- Phase I – 2015/2020 Base Case Ozone Projections, Source Apportionment and Control Sensitivities
  - Budget - $138k
    - Funded with remaining SIP modeling funds and $100,000 grant from DRCOG (through a CDOT contract)
  - Schedule
    - Inform Regional Haze process on NOx controls by June 2009
    - Inform evaluation of potential ozone control strategies during summer 2009

Future Year Ozone Modeling -- Phase II

- Phase II – 2006 Base Case Model Improvements
  - During the recent SIP process a number of areas for possible improvement to the base case modeling platform have been identified, such as:
    - Model underestimation of VOC species suggest possible inventory underestimation of mobile source and oil and gas VOC emissions
    - Meteorological modeling not capturing all of the meteorological processes for some days
    - Mobile sources emissions in NFR region not modeled as accurately as in the DRCOG network area
    - Alternative air quality model (CMAQ) may provide insight into model performance issues

Future Year Ozone Modeling Phase II Budget/Schedule

- Budget - $157k
  - *Currently unfunded*
  - *Tasks can be funded independently*
- Schedule
  - Approximately 7-8 months with fully committed funding
  - Modeling team could start in May-June 2009
  - Take advantage of timeframe available to improve base modeling platform before the region must embark on a SIP modeling process