Memorandum (DRAFT)

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To: 812 Prospective II Files

Subject: Air Quality Model Selection

Date: July 24, 2006

The purpose of this Memorandum to the Files is to document and explain the final air quality model selection for the particulate matter and ozone analyses in the second 812 prospective study. This memorandum is intended to serve as an addendum to the 812 Analytical Blueprint and as such is a publicly available document.

Revised Selection of Air Quality Models

The 2003 version of the second 812 prospective study analytical blueprint proposes the use of REMSAD to model particulate matter air quality changes and CAMx to model ozone air quality changes. Since the analytical blueprint was finalized, significance progress has been made in developing and improving alternative air quality models. As a result of this progress, EPA has now moved toward primary use of CMAQ for modeling both particulate matter and ozone for the purposes of regulatory analysis. Consistent with this change, CMAQ will replace REMSAD plus CAMx for modeling particulate matter and ozone, respectively, in the core scenarios of the second 812 prospective study. Specifically, CMAQ will be applied for the core with-CAAA90 and without-CAAA90 scenarios, and for the high and low growth alternative scenarios. Because the primary purpose of the 812 study is estimation of economic costs and benefits, as opposed to a primary focus on modeling attainment outcomes, current plans are to configure full 12-month CMAQ runs rather than use the 5-month ozone season alternative configuration. In addition, current plans are to include modeling to the 12-km grid level to optimize linkage to the grid scale of the BenMAP effects and valuation model.

EPA/OAR/OAQPS has also developed a Response Surface Model (RSM) based on a reference set of CMAQ runs. RSM now provides a low-cost, quick turnaround alternative to operation of the full CMAQ model. Current plans are now to use RSM to model particulate matter and ozone changes for the sector disaggregation runs. This decision is motivated primarily by the high cost of full CMAQ model runs combined with the large number of emitting sector / target year scenarios to be modeled.

Detailed descriptions of the scenarios to be modeled are provided in the August 3, 2005 Final Memorandum to the Files on Scenario Specification, available at http://www.epa.gov/oar/sect812/ .

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