

Section 3

As proposed, we revised section 3 to more accurately reflect current EPA practice, *e.g.*, functions of the Model Clearinghouse and enhanced criteria for the use of alternative models.

Requirements for alternative models when preferred models are less appropriate for specific applications have been clarified. These requirements include scientific peer review and the establishment of an acceptable protocol prior to the model's use.

Section 4

We revised section 4.2.2 to reflect the widespread use of short-term models for all averaging periods. Hence, we no longer reference long-term models (*e.g.*, ISCLT) in the *Guideline*.⁷

Section 5

To simplify, the list of acceptable, yet equivalent, screening techniques for complex terrain was removed. CTSCREEN and guidance for its use are retained; CTSCREEN remains acceptable for all terrain above stack top. The screening techniques whose descriptions we removed, *i.e.*, Valley (as implemented in SCREEN3), COMPLEX I (as implemented in ISC3), SHORTZ/LONGZ, and RTDM remain available for use in applicable cases where established/accepted procedures are used. Consultation with the appropriate reviewing authority is still advised for application of these screening models.

Section 6

As proposed, we revised section 6 to reflect the new PM-2.5 and ozone ambient air quality standards that were issued on July 18, 1997 (62 FR 38652 & 62 FR 38856). You will note that we inserted respective subsections for particulate matter and lead from section 8, so that section 6 now primarily contains modeling guidance for the criteria pollutants regulated in Part 51 (SO₂ analyses are covered in section 4). We also updated information on receptor models.

- We enhanced the subsection on particulate matter as much as possible to reflect the Agency's current thinking on approaches for fine particulates (PM-2.5). You will note that we removed the references to the Climatological

Dispersion Model (CDM 2.0) as well as to RAM from this section, and also deleted CDM and RAM from appendix A (*see below*).

- We enhanced the subsection on ozone to better reflect modeling approaches we currently envision, and added a reference for current guidance on ozone attainment demonstrations.⁸ You will note that we removed the reference to the Urban Airshed Model (UAM-IV) from this section, and deleted UAM from appendix A. UAM-IV is no longer the recommended photochemical model for attainment demonstrations for ozone.

- We updated the subsection on carbon monoxide by removing reference to RAM. While UAM-IV is deleted from appendix A, reference to areawide analyses is retained. For refined intersection modeling, CAL3QHCR is specifically mentioned for use on a case-by-case basis.

- In the subsection on NO₂ models, we added a third tier for the screening approach that allows the use of the ozone limiting method on a case-by-case basis. You may recall that this approach was removed with the *Guideline* update promulgated on August 9, 1995 (60 FR 40465).

- In the subsection on lead, we deleted references to 40 CFR 51.83, 51.84, and 51.85, conforming to previous EPA action (51 FR 40661).

Section 7

For regional scale modeling, we removed reference to the Regional Oxidant Model (ROM) and the Regional Acid Deposition Model (RADM) from section 7 because they are outdated and replaced by a reference to Models-3⁹ in section 6. We enhanced the subsection on visibility to reflect the provisions of the Clean Air Act, including those for reasonable attribution of visibility impairment and regional haze, as well as the new NAAQS for PM-2.5. For assessment of reasonably attributable haze impairment due to one or a small group of sources, CALPUFF is available for use on a case-by-case basis. We identify REMSAD and new approaches under the Models-3/CMAQ umbrella for possible use to develop and evaluate national policy and assist State and

local control agencies. For long range transport analyses, we recommend the CALPUFF modeling system. To facilitate use of a complex air quality and meteorological modeling system like CALPUFF, we stipulate that a written protocol may be considered for developing consensus in the methods and procedures to be followed.

Section 8

As proposed, we revised section 8 to better reflect our current regulatory practice for the general modeling considerations addressed.

- We revised subsection 8.2.6 to refer to subsection 6.2.3 for details on chemical transformation of NO_x.

- We merged subsection 8.2.8 (Urban/Rural Classification) with subsection 8.2.3 (Dispersion Coefficients), and removed reference to WYNDValley.

- We merged discussions in subsections 8.2.9 (Fumigation) and 8.2.10 (Stagnation) into one new subsection (8.2.8—Complex Winds), and specifically identify the availability of CALPUFF for certain situations on a case-by-case basis.

- We removed the distinction between short-term and long-term models because when assessing the impacts from criteria air pollutants, long-term estimates are now practicable using hour-by-hour meteorological data.

Section 9

As proposed,

- We revised subsection 9.2.3 (recommendations for estimating background concentrations from nearby sources) to reflect a settlement reached on October 16, 1997 in a petition brought by the Utility Air Regulatory Group (UARG). In accordance with the settlement, we are clarifying the definition of "nearby sources." The "maximum allowable emission limit," specified in Tables 9-1 and 9-2, is tied in certain circumstances¹⁰ to the emission rate representative of a nearby source's maximum physical capacity to emit. We also clarify that nearby sources should be modeled only when they operate at the same time as the primary source(s) being modeled. Where a nearby source does not, by its nature, operate at the same time as the primary source being modeled, the burden is on the primary source to demonstrate to the satisfaction of the appropriate reviewing authority that this is, in fact, the case. We added footnotes to Tables 9-1 and 9-2 to refer back to applicable paragraphs of subsection 9.2.3 that provide the necessary clarification.

⁷ Note that because appendix W is designed to guide assessments for criteria pollutants, the proposed discontinuation of ISCLT for purposes herein does not preclude its use for other pollutant assessments, as applicable. For example, the ASPEN model (Assessment System for Population Exposure Nationwide) uses the capabilities of ISCLT to estimate ambient concentrations of toxic pollutants nationwide by census tract. Such applications require the abbreviated computing possible with ISCLT.

⁸ Environmental Protection Agency, 1998. Use of Models and Other Analyses in Attainment Demonstrations for the 8-hr Ozone NAAQS (Draft). Office of Air Quality Planning & Standards, Research Triangle Park, NC. (Docket No. A-99-05, II-A-14) (Also available on SCRAM Web site, <http://www.epa.gov/scram001, as draft8hr.pdf>)

⁹ Environmental Protection Agency, 1998. EPA Third-Generation Air Quality Modeling System. Models-3, Volume 9b: User Manual. EPA Publication No. EPA-600/R-98/069(b). Office of Research and Development, Washington, DC.

¹⁰ See section 8.2.3 of the *Guideline*.