in June 1978 (43 FR 26380). The Guideline was subsequently revised in 1986 (51 FR 32176), and later updated with the addition of supplement A in 1987 (53 FR 393). The last such revision was supplement B, issued on July 20, 1993 (58 FR 38816). The revisions in supplement B included techniques and guidance for situations where specific procedures had not previously been available, and also improved several previously adopted techniques.

During the public comment period for supplement B, EPA received requests to consider several additional new modeling techniques and suggestions for enhanced technical guidance. However, because there was not sufficient time for the public to review the new techniques and technical guidance before promulgation of supplement B, the new models and enhanced technical guidance could not be included in the supplement B rulemaking. Thus, in a subsequent regulatory proposal, EPA proposed to revise the Guideline and sought public comment on the following four items: incorporation of improved algorithms for treatment of area sources and dry deposition in the Industrial Source Complex (ISC) model, adoption of a solar radiation/delta-T (SRDT) method for estimating atmospheric stability categories, adoption of a new screening approach for assessing annual NO2 impacts, and addition of SLAB and HGSYSTEM as alternative models.

Final Action

Today's action amends appendix W of 40 CFR part 51 to effect the revisions known as supplement C, slightly modified in form since proposal. All significant comments have been considered, and whenever they revealed any new information or suggested any alternative solutions, such were considered in EPA's final action.

As proposed, EPA is replacing the area source algorithm in the Industrial Source Complex model with a new one based on a double integration of the Gaussian plume kernel for area sources. This replacement includes that of the finite line segment approximation employed by the short term version of ISC and of the virtual point source technique used in the long term version of ISC.

As proposed, EPA is replacing the dry deposition algorithm in ISC with an improved technique that is more accurate for estimating deposition for small (i.e., $< 20\mu m$ diameter) particles. Use the deposition algorithm in modeling analyses in which particle settling is considered important will remain optional.

EPA will adopt the solar radiation/ delta-T (SRDT) method for Pasquill-Gifford (P–G) stability classification discussed in section 9 of appendix W. However, instead of adopting the SRDT method as a replacement for the currently accepted turbulence-based methods (i.e., σ_{ϕ} and σ_{θ}), as proposed, SRDT will join them as an ensemble of acceptable methods. Furthermore, while the current hierarchy of acceptable methods is eliminated, the Turner method using on-site wind speed and representative cloud cover observations, remains the preferred classification method.

As proposed, EPA revises the annual NO_2 screening technique described in section 6 of appendix W. The new technique, known as the Ambient Ratio Method (ARM), is simpler and less conservative than the Ozone Limiting Method (OLM) it replaces.

As proposed, EPA adds two new models, namely SLAB and HGSYSTEM, as alternative models for use on a caseby-case basis.

Discussion of Public Comments and Issues

All comments submitted to Docket No. A–92–65 are filed in Docket Category IV–D. EPA has summarized these comments, developed detailed responses, and drawn conclusions on appropriate actions for this Notice of Final Rulemaking in an external Agency document.³ In this document, all significant comments have been considered and discussed. Whenever the comments revealed any new information or suggested any alternative solutions, such were considered in EPA's final action.

Major issues raised by the commenters, along with EPA responses, are summarized below. Guidance and editorial changes associated with the resolution of these issues are adopted in the appropriate sections of the Guideline and are promulgated as supplement C (1995) to the "Guideline on Air Quality Models (Revised)" (1986) (Docket Item V–B–1). See the ADDRESSES section of this Notice (above) for general availability.

Although a more detailed summary of the comments and EPA's responses are contained in the aforementioned response-to-comments document (Docket Item V-C-1), the remainder of this preamble section overviews the primary issues encountered by the Agency during the public comment

period. This overview also serves to explain the changes to the Guideline from today's action, and the main technical and policy concerns addressed by the Agency. In our view, all of the changes being made reasonably implement the mandates of the Clean Air Act, and are in fact beneficial to both EPA and the regulated community. While modeling by its nature involves approximation based on scientific methodology, and entails utilization of advanced technology as it evolves, EPA believes these changes respond to recent advances in the area so that the Guideline continues to be comprised of the best and most proven of the available models and analytical techniques, as well as reflect reasonable policy choices.

1. Enhancements to the Industrial Source Complex (ISC2) Model

While for clarification these enhancements are discussed separately, EPA will integrate these enhancements into one model for actual use. Several conforming Guideline revisions will be made: (a) the latest version of ISC that integrates the revised algorithms will be called ISC3, and will hereafter be specified only in main references (section 12) and in its description in appendix A; (b) the term "ISC2" (the version of ISC currently in use) in all but appendix A (i.e., in sections 7.1, 7.2.2, 7.2.5, 7.2.8, 8.2.5 and 8.2.7) will be revised to the more generic "ISC" to make future Guideline revisions more manageable; and (c) section 4.2.1 will be amended to say that the latest version of SCREEN (i.e., SCREEN3), a screening model that uses ISC algorithms, will be specified in the main references, and "SCREEN2" in section 4.2.1 and 5.2.1.1 will be changed to "SCREEN".

A. Area Source Algorithm

There was general public support for adoption of the proposed area source algorithm. Some concern, however, was expressed over the evaluation of the algorithm's performance being based on wind tunnel simulations. A commenter urged the Agency to evaluate the algorithm using a particular "available field data" set. EPA had been aware of the value of such data for evaluation purposes generally but the use of the specific data set cited by the commenter was recommended against by EPA's contractor. And since other such data sets were unavailable, EPA feels that the wind tunnel evaluation was the best possible. EPA will therefore adopt the algorithm, as proposed.

³ "Summary of Public Comments and EPA Responses on the Proposal for Supplement C to the Guideline of Air Quality Models (Revised)"; August 1995 (Air Docket A–92–65, Item V–C–1).