

History of Updates to AQIA Modeling Guidelines:

1. The original AQIA guidance document, titled *Modeling Guidelines for Air Quality Impact Analysis*, was posted in February 1991 and updated in June 1996.
2. Because this original document had become obsolete, the District created a completely new document, titled *Modeling Guidelines for Air Quality Impact Assessments* (AQIA Modeling Guidelines), which was posted in January 2018.
3. Updates to AQIA Modeling Guidelines in March 2018:
 - a. Section 3.8: A link to the Paradise Road meteorological data was added to Table 3.8-1.
 - b. Section 3.8: The latitude of the Santa Maria Airport site was corrected from 35.899 to 34.899 in Table 3.8-1.
 - c. Appendix A, Section A.2: The reference to Table A.2-1 in the last paragraph of this section was corrected (it previously read Table A-1).
 - d. Appendix B, Section B.1.1: The reference to Table B.1.1-1 in the first paragraph in this section was corrected (it previously read Table B.2.1-1).
4. Updates to AQIA Modeling Guidelines in April 2019:
 - a. Section 2.1.1: Table 2.1.1-1 was edited to include all national and state ambient air quality standards, and language was updated accordingly.
 - b. Section 2.1.2: The name of Table 2.1.2-1 was changed from “Air Quality Standards and Increments for Other Pollutants” to “Air Quality Standards for Other Pollutants” because there are no increment standards for these pollutants.
 - c. Section 3: The current version of AERMOD was updated.
 - d. Sections 3.2.1 and 3.2.1.2: The language in these sections was updated to reflect the current EPA guidance that ARM2, not ARM, be used to estimate NO₂ concentrations. The default minimum NO₂/NO_x ratio was updated to 0.50.
 - e. Sections 3.2.2 through 3.2.4: The language in these sections was updated to reflect the correct way to model 1-hour NO₂, 1-hour SO₂ and 24-hour PM_{2.5} for the NAAQS.
 - f. Section 3.2.5: The language at the end of this section for reporting the results was removed.
 - g. Section 3.6: Equation 3.6-1 was corrected.
 - h. Section 3.8: Table 3.8-1 was updated to reflect the District’s approved meteorological data for use in AERMOD.
 - i. Section 4: Information about the AAQS and increment analyses was split into two newly created sections 4.1 and 4.2.
 - j. Section 4.1: Text was rearranged, and language was added to explain why 1-hour NO₂ and 1-hour SO₂ must be modeled for comparison to both the NAAQS and CAAQS. Table 4.1-1 was updated. Table 4.1-2 was added to show the appropriate methodology to determine the background concentration for each AAQS. Language was added explaining a situation where the modeler may report only the most conservative result to avoid the requirement of multiple runs for the same pollutant and averaging period.

- k. Section 5.5.1: Table 5.5.1-1 was edited to show example results for 1-hour SO₂ and 1-hour NO₂ for both the CAAQS and NAAQS.
 - l. Section 6: The references were updated.
 - m. Appendix A: Language was edited to match Form -15i. Table A.2-1 was edited to show the correct emissions rate adjustment factors.
5. Updates to AQIA Modeling Guidelines in June 2020:
- a. Minor formatting changes were made throughout the document.
 - b. Section 3: The current version of AERMOD was updated.
 - c. Section 3.5.4: Table 3.5.4-1, *Summary of Suggested Procedures for Estimating Initial Vertical Dimensions for Volume Sources*, was re-numbered to Table 3.5.4-2. A new table, *Summary of Suggested Procedures for Estimating Initial Lateral Dimensions for Volume Sources*, was added and numbered as Table 3.5.4-1. The reader is now referred to Table 3.5.4-1 for calculating Syinit and the new Appendix C for modeling adjacent volume sources.
 - d. Section 3.5.5: The new Appendix C is now referenced. The release height was added as a LINE source parameter input.
 - e. Section 4.1.1: This section was created to provide additional information on background concentrations. Specifically, exceptional events may be excluded when using the EPA's Air Data to determine background concentrations, and a clarification about EPA guidance on the reporting form for the 24-hour background PM_{2.5} concentration was added.
 - f. Section 6: The references were updated.
 - g. Appendix C: This appendix was added to provide various options for modeling roadway emissions.
 - h. Appendix D: This appendix was added to describe how to model emissions from portable equipment.
6. Updates to AQIA Modeling Guidelines in February 2025:
- a. Section 1.2: EPA Guidance Documents regarding PSD modeling were updated. Additionally, the first sentence of this section was bolded.
 - b. Section 2.1.1: The NAAQS for the annual and 3-hour averaging periods for SO₂ and the annual averaging period for PM_{2.5} in Table 2.1.1-1 were updated.
 - c. Section 2.2.3: Minor updates were made for clarity.
 - d. Section 3: The current version of AERMOD was updated.
 - e. Section 3.1: Minor updates were made for clarity, and this section was updated to reflect the requirement to use AERMOD for offshore modeling.
 - f. Section 3.2.1: The EPA reference document on the conversion of NO_x species to NO₂ was updated.
 - g. Section 3.2.1.3: This section was updated with the GRSM included in the newest version of AERMOD.
 - h. Section 3.2.3: This section was updated to reflect that the 3-hour averaging period is used only for the SO₂ increment threshold, as the 3-hour NAAQS for SO₂ no longer applies.

- i. Section 3.2.4: A sentence was added to this section to clarify that the Annual averaging time must be selected.
- j. Section 3.3: New Cuyama was removed from Table 3.3-2, as this area is not developed enough to warrant the use of the urban dispersion option. Furthermore, population data were updated per the 2020 census.
- k. Section 3.5.2: Minor updates were made to clarify how to use area sources.
- l. Section 3.5.3: Language was added to clarify the restrictions on the minimum values for the Xinit, Yinit, and Pitvol parameters.
- m. Section 3.5.4: Minor updates were made to clarify how to use VOLUME sources.
- n. Section 3.5.5: Minor updates were made to clarify how to use LINE sources.
- o. Section 3.8: Table 3.8-1 was updated with the newly-processed meteorological data sets. Furthermore, a map of the meteorological stations was added.
- p. Section 3.9: Minor updates were made in this section and the subsections to clarify the receptor requirements. Also, the subsections were rearranged.
- q. Section 4.1: A footnote was added to clarify the requirements for averaging the annual mean PM_{2.5} concentration for NAAQS modeling. Table 4.1-1 and 4.1.1-1 were updated with the new NAAQS for the annual averaging period for SO₂ and the new NAAQS for the annual averaging period for PM_{2.5}, as well as removing the NAAQS for the 3-hour averaging period for SO₂.
- r. Section 4.2: A sentence was added to clarify that the most conservative result for the specified increment averaging period may be used in lieu of the form description shown in Table 4.2-1, consistent with the guidance for AAQS modeling in Section 4.1.
- s. Section 5: Minor updates were made to the language in this section, primarily to mirror the District's Form-15i. Additionally, references were added to the newly-published *Modeling Protocol Tables for AQIA Report*.
- t. Section 6: The references were updated.
- u. Section 7: Contact information was updated.
- v. Appendix A: Minor updates were made for clarity.
- w. Appendix C, Section C.2: This section was updated to reflect that the RLINE source type is now a regulatory option in AERMOD.
- x. Appendix C, Section C.5: The references were updated.
- y. Appendix E: This appendix was added.