

RULE SYNOPSIS

August 2013 Draft Engineering Guide #69: Air Dispersion Modeling Guidance changes.

The Ohio EPA Division of Air Pollution Control (DAPC) has completed draft revisions for Engineering Guide #69: Air Dispersion Modeling Guidance.

A Summary of the more significant revisions is outlined below. Several grammatical changes or the addition of website links and references were included in these revisions that are not detailed below. Please note that numbering of the questions and answers was adjusted in this draft. Reference to the number of the question below is in relation to the newly revised numbering scheme.

1. ISC and TSCREEN

All references to ISC and TSCREEN throughout the document were removed as modeling completed with these programs is no longer accepted. ISC references were replaced with references to AERMOD and TSCREEN references with references to AERSCREEN.

2. Modeling Protocols

Added several references to the requirement of modeling protocols throughout the document. Modeling protocols are required for PSD modeling analysis and any modeling that includes non-default AERMOD options.

3. Question 2: What models are to be used?

AERMOD is now the only model acceptable for PSD and state only modeling analysis. SCREEN3 will be acceptable through December 31, 2013 for state only screening analysis. AERSCREEN is the required model for all PSD screening analyses.

4. Question 2.1: Can screening models be used for more than one source?

Moved question and answer 16 from previous version into question 2.

5. Question 3: What meteorological data sets are to be use?

Two minute National Weather Service surface data is now being combined with local surface characteristics and upper air data within the AERMET preprocessor to develop statewide AERMET data for dispersion modeling. The website from

which the data can be downloaded has been updated. References to previous meteorological data sets were removed.

6. **Question 4: What modeled emission rates should be used?**

Emission rates to be modeled for toxic air contaminants were updated in accordance with SB265 changes to ORC 3704.03.

7. **Question 4.2: Are there any exceptions to the modeling thresholds for modeling criteria pollutants and toxics contained in Table 3?**

Clarifying language was added for toxic analysis when a MACT is applicable. Most often a toxics analysis is not necessary, unless factors such as source size, tons of emissions, particle size, pre-existing concerns or proximity to other sources or citizen populations indicate that a modeling review is warranted.

8. **Question 7: What receptor grids must I use?**

References to DEM files were removed and replaced with references to NED files. DEM files are no longer acceptable to use. Web link to download NED files was added. In addition, NED data must be at least one arc second to determine elevation for receptors.

9. **Question 11: How do I obtain a background value when performing NAAQS analyses in Ohio?**

Revisions were made to indicate those preparing modeling should contact Ohio EPA for a representative background. If a modeler would like to suggest a background, it must be approved in a modeling protocol.

10. **Question 12: What sources do I include in a major source PSD and/or NAAQS analysis?**

The website to download the most recent inventory files was updated. In addition, clarification that the most recent emissions inventory files should be used in a modeling analysis.

11. **Question 13: How do I model major sources in nonattainment areas to demonstrate net air quality improvement?**

References to specific nonattainment pollutants were removed and just replaced with "nonattainment pollutant".

12. **Previous Question 16: Can I use SCREEN to model multiple sources?**

Moved this question and answer to question 2.

13. **Question 17: How do you model PM2.5 secondary formation for PSD?**

Included information from the U.S. EPA PM2.5 Permit Modeling Draft Guidance document on how to model PM2.5 for NNSR and PSD permitting. (http://www.epa.gov/ttn/scram/guidance/guide/Draft_Guidance_for_PM25_Permit_Modeling.pdf)

14. **Question 18: Which averaging times should I use?**

Added question clarifying which averaging times should be modeled for respective pollutants. Answer directs readers to averaging times listed in Table 3.

15. **Question 19: Are modeling protocols required?**

Modeling protocols are now required for all NNSR and PSD modeling analyses. Modeling protocols are also required for any modeling analyses that include non-default options in AERMOD.

16. **Question 20: Does start up and shut down need to be modeled?**

Start up and shutdown emissions might need to be modeled if the emissions from startup/shutdown operations are greater than non-startup/shutdown maximum emission rates. Contact Ohio EPA if this is the case.

17. **Question 21: When is a Class I Modeling Analysis required?**

Included the Q/D equation used to determine if a Class I Area analysis is required for facilities within 300 kilometers of a Class I Area.

18. **Question 22: Will Ohio EPA do air dispersion modeling for my facility?**

Ohio EPA only reviews the dispersion modeling submitted in support of a permit. Each facility is responsible for conducting and submitting their own modeling analysis.

19. **Question 23: What files need to be submitted to Ohio EPA for a modeling review?**

Included a list of items that need to be submitted to Ohio EPA for a modeling submittal to be deemed complete.

20. **Question 24: Do I need to model Greenhouse Gases?**

Confirmed that Ohio does not require modeling for Greenhouse Gases.

21. **Question 25: How do I evaluate Ozone?**

Ohio EPA does not require modeling for ozone. If NO_x and/or VOC emissions exceed 40 tpy a qualitative analysis is required. The qualitative analysis shall show that increases in NO_x and/or VOCs will not cause or contribute to an ozone exceedance.