

Chapter 110: AMBIENT AIR QUALITY STANDARDS

SUMMARY: This regulation establishes ambient air quality standards that are maximum levels of a particular pollutant that are permitted in the ambient air. This regulation also establishes ambient increments which define the maximum ambient increase of a particular pollutant that can be permitted for a given area depending on the classification of that area. Area classification is dealt with in another regulation.

1. Scope. These standards are applicable in all ambient air quality control regions of the State of Maine.

2. Particulate Matter Ambient Air Quality Standards

A. The primary and secondary 24-hour ambient air quality standards for PM_{10} are $150 \mu\text{g}/\text{m}^3$. The standards are attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{m}/\text{m}^3$, as determined in accordance with 40 CFR Part 50 Appendix K, is equal to or less than one.

B. The primary and secondary ambient air quality standards for $PM_{2.5}$ are:

(1) Annual Standards

(a) The primary annual $PM_{2.5}$ standard is met when the annual arithmetic mean concentration averaged over 3 years, as determined in accordance with 40 CFR Part 50 Appendix N, is less than or equal to $12.0 \mu\text{g}/\text{m}^3$.

(b) The secondary annual $PM_{2.5}$ standard is met when the annual arithmetic mean concentration averaged over 3 years, as determined in accordance with 40 CFR Part 50 Appendix N, is less than or equal to $15.0 \mu\text{g}/\text{m}^3$.

(2) 24-Hour Standards. The 24-hour primary and secondary $PM_{2.5}$ standards are met when the 98th percentile 24-hour concentration averaged over 3 years, as determined in accordance with 40 CFR Part 50 Appendix N, is less than or equal to $35.0 \mu\text{g}/\text{m}^3$.

3. Sulfur Dioxide Ambient Air Quality Standards

A. The primary ambient air quality standard for sulfur oxides measured as sulfur dioxide is a 1-hour average concentration of 75 ppb. The primary sulfur dioxide standard is met when the 99th percentile 1-hour daily maximum concentration averaged over 3 years, as determined in accordance with 40 CFR Part 50 Appendix T, is less than or equal to 75 ppb.

B. The secondary ambient air quality standard for sulfur oxides measured as sulfur dioxide is a maximum 3-hour concentration of 0.5 ppm. The secondary sulfur dioxide standard is met when the second-highest 3-hour average per calendar year, as determined in accordance with 40 CFR Part 50, Appendix A, is less than or equal to 0.5 ppm.

4. Carbon Monoxide Ambient Air Quality Standards. The ambient air quality standards for carbon monoxide are:

- A. **9 ppm (10 milligrams per cubic meter) for an 8-hour average concentration.** The 8-hour average is met when the second-highest 8-hour average concentration per calendar year, as determined in accordance with 40 CFR Part 50 Appendix C, is less than or equal to 9 ppm; and
 - B. **35 ppm (40 milligrams per cubic meter) for an 1-hour average.** The 1-hour average is met when the second-highest 1-hour average concentration per calendar year, as determined in accordance with 40 CFR Part 50 Appendix C, is less than or equal to 35 ppm.
5. **Ozone.** The primary and secondary ambient air quality standard for ozone is an 8-hour average concentration of 0.070 ppm. The primary and secondary ambient air quality standard for ozone is met when the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration, as determined in accordance with 40 CFR Part 50 Appendix P, is less than or equal to 0.070 ppm.
6. **Nitrogen Dioxide Ambient Air Quality Standards**
- A. The 1-hour primary ambient air quality standard for nitrogen dioxide is a concentration of 100 ppb. The standard is met when the 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years at a monitor, as determined in accordance with 40 CFR Part 50 Appendix S, does not exceed 100 ppb.
 - B. The annual primary and secondary ambient air quality standard for nitrogen dioxide is a concentration of 53 ppb. The standard is met when the when the annual arithmetic mean concentration at a monitor, as determined in accordance with 40 CFR Part 50 Appendix S, does not exceed 53 ppb.
7. **Lead Ambient Air Quality Standards.** The primary and secondary ambient air quality standard for lead and its compounds measured as elemental lead is $0.15 \mu\text{g}/\text{m}^3$. The standards are met when the maximum rolling three month average measured over a three-year period does not exceed $0.15 \mu\text{g}/\text{m}^3$, as determined in accordance with 40 CFR Part 50, Appendix R.
8. **Establishment of Ambient Increments**
- A. In addition to the ambient air quality standards adopted by the Board and enacted as 38 M.R.S.A., 584-A, any Class I Region or part thereof within the State (including those federal lands designated by the *Clean Air Act* Amendments of 1977 shall be subject to a maximum allowable increase in concentration of PM_{2.5}, PM₁₀, sulfur dioxide, and nitrogen dioxide over the baseline concentration of such pollutants. The maximum allowable increase for any period other than an annual period, shall not be exceeded more than once annually. Such maximum allowable increase shall consist of:
 - (1) **PM_{2.5}**
 - (a) An increase in the annual arithmetic mean at any location shall not exceed 1 microgram per cubic meter.

- (b) An increase in concentration for any 24-hour period at any location shall not exceed 2 micrograms per cubic meter.

(2) **PM₁₀**

- (a) An increase in the annual arithmetic mean at any location shall not exceed 4 micrograms per cubic meter.
- (b) An increase in concentration for any 24-hour period at any location shall not exceed 8 micrograms per cubic meter.

(3) **Sulfur Dioxide**

- (a) An increase in the annual arithmetic mean at any location shall not exceed 2 micrograms per cubic meter.
- (b) An increase in concentration for any 24-hour period at any location shall not exceed 5 micrograms per cubic meter.
- (c) An increase in concentration for any three-hour period at any location shall not exceed 25 micrograms per cubic meter.

(4) **Nitrogen Dioxide**

- (a) An increase in the annual arithmetic mean at any location shall not exceed 2.5 micrograms per cubic meter.

B. In addition to the ambient air quality standards adopted by the Board and enacted as 38 M.R.S.A., 584-A, any Class II region or part thereof within the State shall be subject to a maximum allowable increase in concentration of PM_{2.5}, PM₁₀, sulfur dioxide and nitrogen dioxide over the baseline concentration of such pollutants. The maximum allowable increase for any period other than an annual period, shall not be exceeded more than once annually. Such maximum allowable increase shall consist of:

(1) **PM_{2.5}**

- (a) An increase in the annual arithmetic mean at any location shall not exceed 4 micrograms per cubic meter.
- (b) An increase in concentration for any 24-hour period at any location shall not exceed 9 micrograms per cubic meter.

(2) **PM₁₀**

- (a) An increase in the annual arithmetic mean at any location shall not exceed 17 micrograms per cubic meter.

- (b) An increase in concentration for any 24-hour period at any location shall not exceed 30 micrograms per cubic meter.

(3) Sulfur dioxide

- (a) An increase in the annual arithmetic mean at any location shall not exceed 20 micrograms per cubic meter.
- (b) An increase in concentration for any 24-hour period at any location shall not exceed 91 micrograms per cubic meter.
- (c) An increase in concentration for any three-hour period at any location shall not exceed 512 micrograms per cubic meter.

(4) Nitrogen Dioxide

- (a) An increase in the annual arithmetic mean at any location shall not exceed 25 micrograms per cubic meter.

C. In addition to the ambient air quality standards adopted by the Board and enacted as 38 M.R.S.A., 584-A, any Class III Region or part thereof within the State shall be subject to a maximum allowable increase in concentration of PM_{2.5}, PM₁₀, sulfur dioxide and nitrogen dioxide over the baseline concentration of such pollutants. The maximum allowable increase for any period other than an annual period, shall not be exceeded more than once annually. Such maximum allowable increase shall consist of:

(1) PM_{2.5}

- (a) An increase in the annual arithmetic mean at any location shall not exceed 8 micrograms per cubic meter.
- (b) An increase in concentration for any 24-hour period at any location shall not exceed 18 micrograms per cubic meter.

(2) PM₁₀

- (a) An increase in the annual arithmetic mean at any location shall not exceed 34 micrograms per cubic meter.
- (b) An increase in concentration for any 24-hour period at any location shall not exceed 60 micrograms per cubic meter.

(3) Sulfur dioxide

- (a) An increase in the annual arithmetic mean at any location shall not exceed 40 micrograms per cubic meter.

- (b) An increase in concentration for any 24-hour period at any location shall not exceed 182 micrograms per cubic meter.
- (c) An increase in concentration for any three-hour period at any location shall not exceed 700 micrograms per cubic meter.

(4) Nitrogen Dioxide

- (a) An increase in the annual arithmetic mean at any location shall not exceed 50 micrograms per cubic meter.

9. Exclusions from the Increment

- A. Concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of sections 2 (a) and (b) of the *Federal Energy Supply and Environmental Coordination Act of 1974* over the emissions from such sources before the effective date of such order. Any exclusions provided by this section shall end five years after the effective date of this order;
- B. Concentrations of PM_{2.5} or PM₁₀ attributable to the increase in emissions from construction or other temporary emission-related activities; and
- C. The increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration.

AUTHORITY: 38 M.R.S.A., Section 584

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