

## **14.0 AMBIENT AIR QUALITY STANDARDS**

### **14.1 Nondegradation**

Ambient Air Quality Standards, as given in Table I, are applicable throughout Knox County. These ambient air quality standards shall not be construed, applied, or interpreted to allow any deterioration of the existing air quality in any portion of the county.

Primary Ambient Air Quality Standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect the public health.

Secondary Ambient Air Quality Standards define levels of air quality believed adequate with an appropriate margin of safety, to protect public welfare from any known or anticipated adverse effects of the pollutant.

### **14.2 Multiple Air Contaminant Source**

In an area where an additive effect occurs from the accumulation of air contaminants from two or more sources such that the level of air contaminants exceeds the ambient air quality standards established by the Knox County Air Pollution Control Board, and each source is emitting no more than the allowed limit for an air contaminant for a single source, further reduction of emissions from each source shall be made as determined by the Director.

### **14.3 Single Air Contaminant Source**

In an area where an additive effect occurs from the accumulation of a single air contaminant source such that the level of air contaminants exceeds the ambient air quality standards established by the Knox County Air Pollution Control Board, further reduction of emissions from such air contaminant source shall be made as determined by the Director.

### **14.4 Procedures for Ambient Sampling and Analysis**

- A. Procedures for sulfur dioxide, suspended particulate, photochemical oxidants, and carbon monoxide may be found in Federal Register, Volume 36, No. 84, dated April 30, 1971. The reference method for the sampling and the analytical procedures for nitrogen dioxide may be found in the Federal Register, Volume 41, No. 232, dated December 1, 1976. The sampling and analytical procedures for lead may be found in the Federal Register, Volume 43, No. 194, dated October 5, 1978. The reference method for sampling and analytical procedures for ozone may be found in the Federal Register, Volume 44, No. 28, Part V, dated February 8, 1979. The procedure for sampling and analyzing atmospheric fluorides shall conform with the method adopted by the American Society for Testing Materials in 1958 and bearing ASTM designation D1606-58T.

**TABLE I**

Knox County Ambient Air Quality Standards for Total Suspended Particulates, Sulfur Dioxide, Carbon Monoxide, Ozone, PM<sub>10</sub>, Nitrogen Dioxide, and Lead.<sup>1</sup>

Contaminant	Primary Standard		Secondary Standard		
	Concentration		Averaging Interval	Concentration	
	ug/m <sup>3</sup> ppm by vol.			ug/m <sup>3</sup> ppm by vol.	
Total Suspended Particulates	75 -- 260 --	AGM <sup>5</sup> 24 hr.	60 -- 150 --	AGM <sup>6</sup> 24 hr.	
Sulfur Dioxide	80 0.03 365 0.14	AAM <sup>7</sup> 24 hr.	1,300 0.50	3 hr.	
Carbon Monoxide	10,000 9.0 40,000 35.0	8 hr. 1 hr.	10,000 9.0 40,000 35.0	8 hr. 1 hr.	
Ozone <sup>8</sup>	235 0.12	1 hr.	235 0.12	1 hr.	
PM <sub>10</sub> <sup>9</sup>	50 150	AGM 24 hr.	50 150	AGM 24 hr.	
Nitrogen Dioxide	100 0.05	AAM	100 0.05	AAM	
Lead	1.5 ug/m <sup>3</sup>	Calendar Quarter	1.5 ug/m <sup>3</sup>	Calendar Quarter	

- NOTES:
1. All values other than annual values are maximum concentrations not to be exceeded more than once per year.
  2. PPM values are approximate only.
  3. All concentrations relate to air at standard conditions of 25°C temperature and 760 millimeters of mercury pressure.
  4. ug/m<sup>3</sup> - micrograms per cubic meter.
  5. AGM - annual geometric mean.
  6. This value of 60 for an AGM for particulate matter is a guide to be used in addressing implementation plans to achieve the 24-hour standard.
  7. AAM - annual arithmetic mean.
  8. The standard is attained when the expected number of days per calendar year with maximum hourly concentration above 0.12 ppm (235 ug/m<sup>3</sup>) is equal to or less than 1 as determined by the Federal Register, Volume 44, No. 28, February 8, 1979, Part V, Appendix H.
  9. The 24-hour standards are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 ug/m<sup>3</sup>, as determined by Appendix K in Federal Register, Volume 52, No. 126, July 1, 1987, is equal to or less than one.

The annual standards are attained when the expected annual arithmetic mean concentration, as determined in accordance with Appendix K as cited above, is less than or equal to 50 ug/m<sup>3</sup>.

THIS IS THE FEDERALLY APPROVED REGULATION AS OF FEBRUARY 8, 1990  
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