

Background Ambient Air Quality Monitoring Data For Use in Air Quality Impact Evaluations¹

Carbon Monoxide (CO)

Site	Standard		Concentrations By Year in Units of ppm*			Value to be used in Air Quality Impact Evaluation**
			2008	2009	2010	
Burlington	1-hour	35 ppm	1.9	2.8	3.3	2.7
	8-hour	9 ppm	1.2	1.8	1.2	1.4
Rutland	1-hour	35 ppm	3.1	3.3	2.5	3.0
	8-hour	9 ppm	2.1	1.5	1.3	1.6

* To convert ppm values to units of mg/m³ multiply ppm value by 1.145

** This value is an average of the three years.

Sulfur Dioxide (SO₂)

Site	Standard*		Concentrations By Year in Units of ppb**			Value to be used in Air Quality Impact Evaluation***
			2008	2009	2010	
Rutland	1-hour	75 ppb	33	27	21	27
	3-hour	500 ppb	31	34	18	28
	24-hr	140 ppb	21	21	10	17
	annual	30 ppb	3.6	2.8	2.4	2.9

* The 1-hour SO₂ standard became effective June 22, 2010. The 140 ppb 24-hour and the 30 ppb annual standards were revoked on the same date but remain in effect for one year after the new attainment designation. The reported 1-hour value for each respective year is the 99th percentile value of the daily maximums (typically the 4th high value of the daily maximum if all days are monitored), not the overall maximum 1-hour value. See 40CFR Part 50 Appendix T.

** To convert ppb values to units of ug/m³ multiply ppb value by 2.618

*** This value is an average of the three years.

Nitrogen Dioxide (NO₂)

Site	Standard*		Concentrations By Year in Units of ppb**			Value to be used in Air Quality Impact Evaluation***
			2008	2009	2010	
Burlington	1-hour	100 ppb	45	39	38	41
	Annual	53 ppb	10.3	9.1	8.6	9.3
Rutland	1-hour	100 ppb	43	41	39	41
	Annual	53 ppb	9.9	8.4	7.7	8.7

* The 1-hour NO₂ standard became effective April 12, 2010. The reported 1-hour value for each respective year is the 98th percentile value of the daily maximums (typically the 8th high value of the daily maximums if all days are monitored) , not the overall maximum 1-hour value. See 40 CFR Part 50 Appendix N.

** To convert ppb values to units of ug/m³ multiply ppb value by 1.881

*** This value is an average of the three years.

Particulate Matter PM_{2.5}

Site	Standard* (ug/M ³)		Concentrations By Year in Units of ug/M ³			Value to be used in Air Quality Impact Evaluation**
			2008	2009	2010	
Bennington	24-hour	35	23.2	16.0	21.6	20.3
	Annual	15	7.3	6.5	6.9	6.9
Burlington (Cherry Street)	24-hour	35	22.1	17.4	25.3	21.6
	Annual	15	7.8	7.1	7.1	7.3
Underhill	24-hour	35	18.4	12.9	15.1	15.5
	Annual	15	5.6	5.0	5.3	5.3
Rutland	24-hour	35	27.7	30.6	31.8	30.0
	Annual	15	10.6	9.6	9.5	9.9

*The 24-hour PM_{2.5} standard was revised from 65 ug/M3 downward to 35 ug/M3 effective December 18, 2006. Both standards are being reviewed and may be lowered. The reported 24-hour value for each respective year is the 98th percentile value (typically the 3rd high value if all of the every-third-day periods are monitored), not the maximum 24-hour value.

** This value is an average of the three years. While the National Ambient Air Quality Standards for PM_{2.5} have been established, the federal and state permitting regulations for implementing the standards have not yet been fully implemented. Therefore, PM₁₀ may still be used in permitting as a surrogate for PM_{2.5} until full permit implementation of PM_{2.5} (expected May 2011). However, each project wishing to use PM₁₀ instead of PM_{2.5} must make a demonstration that PM₁₀ is a representative surrogate.

Particulate Matter PM₁₀

Site	Standard* (ug/M ³)		Concentrations By Year in Units of ug/M ³			Value to be used in Air Quality Impact Evaluation**
			2008	2009	2010	
Brattleboro	24-hour	150	35	No data	No data	35
	Annual	50	13.6	No data	No data	13.6
Burlington (MainStreet/So. Winooski Ave)	24-hour	150	42	34	31	36
	Annual	50	12.9	12.6	13.4	13.0
Rutland	24-hour	150	37	35	32	35
	Annual	50	13.7	12.7	13.6	13.3
Underhill	24-hour	150	23	33	33	30
	Annual	50	6.8	6.8	8.1	7.2

*The annual PM₁₀ National Ambient Air Quality Standard (NAAQS) was eliminated effective December 18, 2006. The 24-hour PM₁₀ NAAQS was retained as the new standard for coarse particulates. Both values are still reported above since PM₁₀ may still be used in permitting as a surrogate for PM_{2.5} until full permit implementation of PM_{2.5} (expected May 2011) provided an adequate demonstration is made that PM₁₀ is a representative surrogate.

**This value is an average of the three years.

All monitored values reported above are the maximum measured values from the respective monitoring stations, except where noted for SO₂ (1-hour), NO₂ (1-hour), and PM_{2.5}. These values are based on 99th or 98th percentile value as established by the standard. The background value to use in modeling analyses is an average of the reported monitored values over the three years. The appropriate background value to use for modeling analyses for locations in the state not having its own monitoring station will be determined by the Agency. The selected background value should be used with the appropriate source impact predicted by the air pollutant dispersion model.

The above monitored values need to be added to the modeled source impact from the dispersion model for comparison to the ambient air quality standard. Only the modeled source impact alone is used for comparison to Prevention of Significant Deterioration (PSD) increments. The appropriate source impact from the dispersion model to use for determining compliance with the standards or increments depends on the type of standard, the averaging time of the standard being analyzed and the number of years of meteorological data being modeled. Please consult 40 CFR Part 51 Appendix W.