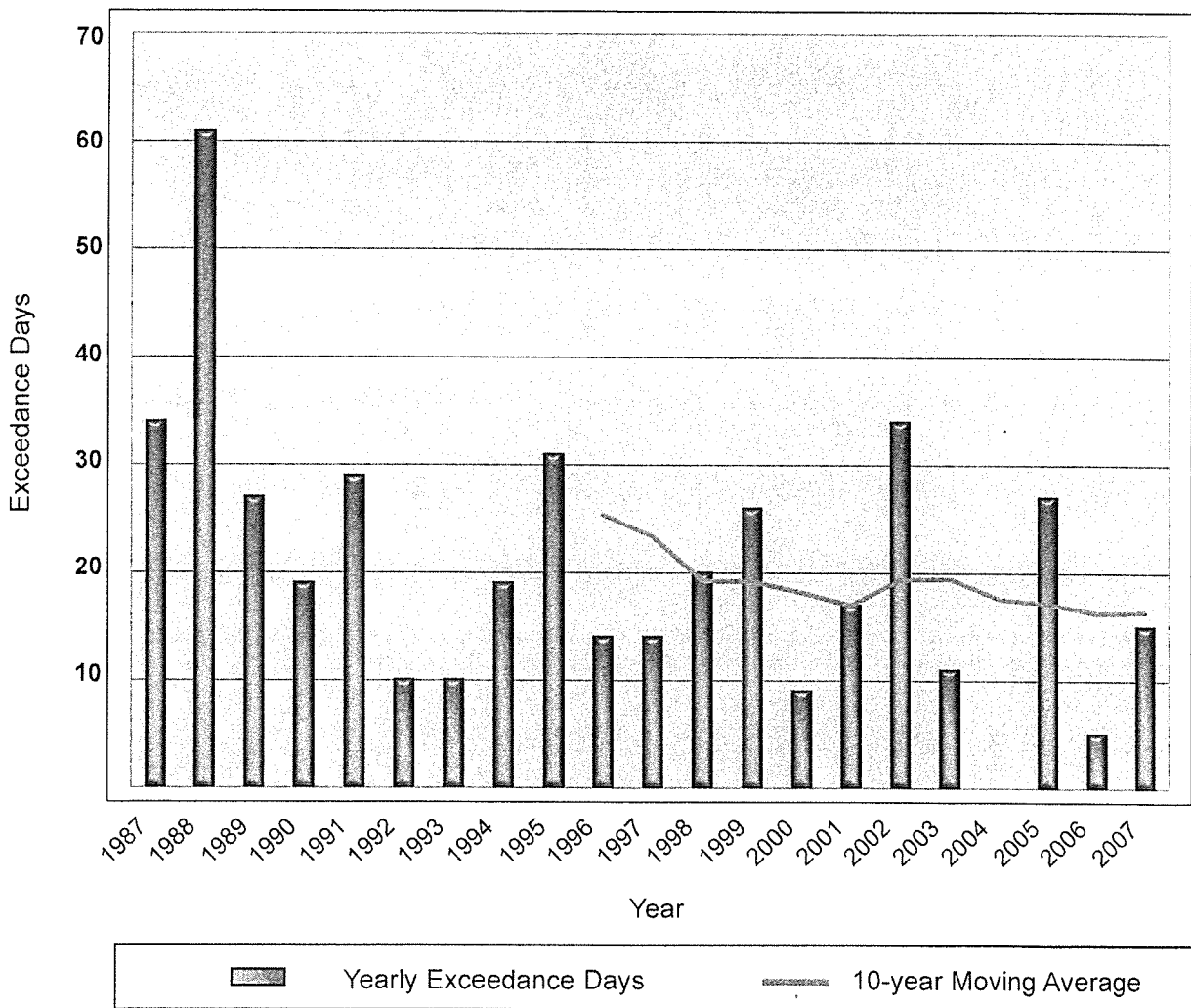




# 2007 Illinois Annual Air Quality Report

Illinois Yearly 8-hour Ozone Exceedance Days  
1987-2007  
8-hour Standard 0.08 Parts Per Million



December 2008

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EXH. 2  
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4-29-09

sources, and for the determination of air contaminant emission limitations to ensure that population, industry and economic

growth trends do not add to the region's air pollution problems.

**Table 1: Summary of National and Illinois Ambient Air Quality Standards**

Pollutant	Averaging Time	Standard	
		Primary	Secondary
Standard units are micrograms per cubic meter (ug/m <sup>3</sup> ) and parts per million (ppm)			
<b>Particulate Matter</b>			
<b>10 micrometers (PM<sub>10</sub>)</b>	24-hour	150 ug/m <sup>3</sup>	Same as Primary
<b>Particulate Matter</b>	Annual Arithmetic Mean	15.0 ug/m <sup>3</sup>	Same as Primary
<b>2.5 micrometers (PM<sub>2.5</sub>)</b>	24-hour	35 ug/m <sup>3</sup>	Same as Primary
<b>Sulfur dioxide</b>	Annual Arithmetic Mean	0.03 ppm	None
	24-hour	0.14 ppm	None
	3-hour	None	0.5 ppm
<b>Carbon Monoxide</b>	1-hour	35 ppm	Same as Primary
	8-hour	9 ppm	Same as Primary
<b>Ozone</b>	1-hour/day	0.12 ppm	Same as Primary
	8-hour/day*	0.08 ppm*	Same as Primary
<b>Nitrogen Dioxide</b>	Annual Arithmetic Mean	0.053 ppm	Same as Primary
<b>Lead</b>	3-Month Maximum Mean	0.15 ug/m <sup>3</sup>	Same as Primary
The PM <sub>2.5</sub> standards are referenced to local conditions of temperature and pressure rather than standard conditions (760 mm and 25 deg C).			
Note: The State of Illinois has not adopted the PM <sub>2.5</sub> or 8-hour ozone standards at this time.			
*The ozone 8-hour standard was changed in 2008 to 0.075 ppm.			

Table B8

2007  
SULFUR DIOXIDE VALUES IN EXCESS  
OF THE 24-HOUR PRIMARY STANDARD OF 0.14 PPM OR  
THE 3-HOUR SECONDARY STANDARD OF 0.5 PPM

STATION	ADDRESS	DATE	AVERAGING TIME	NUMBER OF EXCURSIONS	TIME PERIOD	MAXIMUM AVERAGE
<b>70 BURLINGTON-KEOKUK INTERSTATE (IA - IL)</b>						
<b>TAZEWELL COUNTY</b>						
Pekin	272 Derby	Mar 1-3	24-hour	1	1800-2400	0.182
		Dec 23-24	24-hour	2	0200-0700	0.162

**Table B9**  
**2007**  
**SULFUR DIOXIDE**  
**(parts per million)**

STATION	ADDRESS	NUMBER OF SAMPLES			HIGHEST SAMPLES				ANNUAL ARITHMETIC MEAN
		TOTAL	3-HR > 0.5	24-HR > 0.14	3-HR AVG. 1ST	2ND	24-HR AVG. 1ST	2ND	
<b>65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)</b>									
<b>PEORIA COUNTY</b>									
Peoria	Hurlburt & MacArthur	8702	0	0	0.071	0.065	0.025	0.021	0.002
<b>TAZEWELL COUNTY</b>									
Pekin	272 Derby	8696	0	2	0.297	0.276	0.182	0.162	0.004
<b>67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)</b>									
<b>COOK COUNTY</b>									
Chicago - CTA	320 S. Franklin	8569	0	0	0.043	0.028	0.012	0.011	0.002
Chicago - Com Ed	780 Lawndale	8662	0	0	0.037	0.024	0.012	0.009	0.003
Chicago - SE Police	103rd & Luella	8553	0	0	0.036	0.031	0.016	0.013	0.002
Cicero	1830 S. 51st Ave.	8564	0	0	0.050	0.032	0.015	0.014	0.003
Lemont	729 Houston	8702	0	0	0.111	0.095	0.036	0.032	0.005
Northbrook	750 Dundee Rd.	8375	0	0	0.034	0.031	0.014	0.012	0.001
<b>WILL COUNTY</b>									
Joliet	Rte 6 & Young Rd.	8682	0	0	0.070	0.051	0.019	0.018	0.004
<b>70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)</b>									
<b>MADISON COUNTY</b>									
South Roxana	Michigan Ave.	8703	0	0	0.072	0.071	0.027	0.026	0.003
Wood River	54 N. Walcott	8633	0	0	0.059	0.056	0.014	0.012	0.003
Wood River	1710 Vaughn Rd.	8693	0	0	0.191	0.147	0.076	0.062	0.004
<b>RANDOLPH COUNTY</b>									
Houston	Twp Rd 150 & Twp Rd 45	8527	0	0	0.031	0.030	0.007	0.007	0.001
<b>ST. CLAIR COUNTY</b>									
East St. Louis	13th & Tudor	8625	0	0	0.041	0.026	0.011	0.010	0.002
<b>71 NORTH CENTRAL ILLINOIS INTRASTATE</b>									
<b>LASALLE COUNTY</b>									
Oglesby	508 Portland	8589	0	0	0.394	0.312	0.098	0.082	0.006
<b>74 SOUTHEAST ILLINOIS INTRASTATE</b>									
<b>WABASH COUNTY</b>									
Mount Carmel	Division St	8199	0	0	0.115	0.090	0.031	0.023	0.005
Rural Wabash County	South of SR-1	8682	0	0	0.054	0.042	0.018	0.017	0.005

Primary 24-Hour Standard 0.14 ppm; Primary Annual Standard 0.03 ppm

**Table B9**  
**2007**  
**SULFUR DIOXIDE**  
**(parts per million)**

STATION	ADDRESS	NUMBER OF SAMPLES			HIGHEST SAMPLES				ANNUAL ARITHMETIC MEAN
		TOTAL	3-HR > 0.5	24-HR > 0.14	3-HR AVG. 1ST	24-HR AVG. 2ND	1ST	2ND	
<b>75 WEST CENTRAL ILLINOIS INTRASTATE</b>									
<b>MACON COUNTY</b>									
Decatur	2200 N. 22nd St.	8696	0	0	0.049	0.047	0.021	0.021	0.002
<b>MACOUPIN COUNTY</b>									
Nilwood	Heaton & DuBois	8644	0	0	0.017	0.017	0.007	0.006	0.001
<b>SANGAMON COUNTY</b>									
Springfield	Sewage Plant	8672	0	0	0.122	0.120	0.053	0.051	0.003

Primary 24-Hour Standard 0.14 ppm; Primary Annual Standard 0.03 ppm

**Table B10**

**2007  
SHORT-TERM TRENDS  
SULFUR DIOXIDE**

STATION	ADDRESS	2002	2003	ANNUAL MEANS (ppm)			2007
				2004	2005	2006	
<b>65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)</b>							
<b>PEORIA COUNTY</b>							
Peoria	Hurlburt & MacArthur	0.005	0.004	0.004	0.004	0.004	0.002
<b>TAZEWELL COUNTY</b>							
Pekin	272 Derby	0.005	0.005	0.005	0.005	0.004	0.004
<b>67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)</b>							
<b>COOK COUNTY</b>							
Chicago -CTA	320 S. Franklin	0.004	0.003	0.003	0.003	0.002	0.002
Chicago - Com Ed	780 Lawndale	-	-	0.006	0.004	0.003	0.003
Chicago - SE Police	103rd & Luella	0.002	0.003	0.003	0.003	0.002	0.002
Cicero	1830 S. 51st Ave.	0.004	0.005	0.005	0.005	0.004	0.003
Lemont	729 Houston	0.005	0.004	0.006	0.005	0.005	0.005
Northbrook	750 Dundee Rd.	-	-	0.002	0.002	0.002	0.001
<b>WILL COUNTY</b>							
Joliet	Rte 6 & Young Rd.	0.004	0.004	0.003	0.004	0.004	0.004
<b>70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)</b>							
<b>MADISON COUNTY</b>							
South Roxanna	Michigan Ave.	0.005	0.004	0.005	0.005	0.004	0.003
Wood River	54 N. Walcott	0.004	0.004	0.004	0.004	0.003	0.003
Wood River	1710 Vaughn Rd.	0.005	0.006	0.005	0.005	0.005	0.004
<b>RANDOLPH COUNTY</b>							
Houston	Twp Rd 150 & Twp Rd 45	0.002	0.002	0.002	0.002	0.002	0.001
<b>ST. CLAIR COUNTY</b>							
East St. Louis	13th & Tudor	0.005	0.005	0.003	0.005	0.002	0.002
<b>71 NORTH CENTRAL ILLINOIS INTRASTATE</b>							
<b>LASALLA COUNTY</b>							
Oglesby	508 Portland	-	+	0.004	0.004	0.004	0.006
<b>74 SOUTHEAST ILLINOIS INTRASTATE</b>							
<b>WABASH COUNTY</b>							
Mount Carmel	Division St.	0.004	0.004	0.004	0.006	0.005	0.005
Rural Wabash County	South of SR-1	0.003	0.003	0.003	0.004	0.004	0.005

Primary Annual Standard 0.03 ppm

**Table B10**

**2007  
SHORT-TERM TRENDS  
SULFUR DIOXIDE**

STATION	ADDRESS	2002	2003	ANNUAL MEANS (ppm)			
				2004	2005	2006	2007
<b>75 WEST CENTRAL ILLINOIS INTRASTATE</b>							
<b>ADAMS COUNTY</b>							
Quincy	732 Hampshire	0.003	0.002	0.002	0.002	0.001	+
<b>MACON COUNTY</b>							
Decatur	2200 N. 22nd St.	0.004	0.003	0.004	0.004	0.003	0.002
<b>MACOUPIN COUNTY</b>							
Nilwood	Heaton & DuBois	0.002	0.002	0.002	0.002	0.001	0.001
<b>SANGAMON COUNTY</b>							
Springfield	Sewage Plant	0.003	0.003	0.003	0.003	0.002	0.003

- Station not in operation during year shown  
+ Did not meet minimum statistical selection criteria (See Section B.1)

**Primary Annual Standard 0.03 ppm**

# SUMMARY OF PEKIN SULFUR DIOXIDE DATA FROM USEPA's AIRDATA SYSTEM

[http://oaspub.epa.gov/aqspub1/AQS\\_Annsum.AnnualSummary](http://oaspub.epa.gov/aqspub1/AQS_Annsum.AnnualSummary)



Air Data

179900044240102 2007 0 1 007 1 8696 .363 03/02/2007 .339 03/02/2007 .0048

1717900044240102 2007 0 1 007 1 365 .168 03/02/2007 .133 12/23/2007

## Monitor Values Report - Criteria Air Pollutants

**Geographic Area:** Tazewell Co, IL  
**Pollutant:** Sulfur Dioxide  
**Year:** 2007

**EPA Air Quality Standards:**  
Sulfur Dioxide: 0.5 ppm (3-hour average), 0.14 ppm (24-hour average), 0.030 ppm (annual mean)

ppm = parts per million

1 Rows  
See Disclaimer

SO2 (ppm)													Monitor Number	Site ID	Site Address	City	County	State	EPA Region
Row #	Obs	1st Max	2nd Max	1st Max	2nd Max	# Exceed	1st Max	2nd Max	# Exceed	Mean	# Exceed								
1	8,696	0.363	0.339	0.224	0.220	0	0.168	0.133	1	0.005	0	2	171790004	272 Derby	Pekin	Tazewell Co	IL	05	
<b>Grand Total</b>						0			1	0									

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EPA Office of Air Quality Planning and Standards

**Annual  
Summary  
Report**

3 Matches

Year of 2007 And State Code of 17 And County Code of 179 And Parameter Code of 42401 And Ordered by Columns  
annual\_summary.monitor\_id,annual\_summary.year,annual\_summary.interval\_code,annual\_summary.except\_data\_flag

Click a Column Heading for Description

Monitor Id	Year	Except Data Flag	Interval	Unit	Exceed Std Pri	Method Cnt	Obs Cnt	Max1 Value	Max1 Collection Date	Max2 Value	Max2 Collection Date	Arith Mean	Non Overlap Avg
1717900044240102	2007	0	I	007		1	8696	.363	03/02/2007	.339	03/02/2007	.0048	
1717900044240102	2007	0	X	007	I		365	.168	03/02/2007	.133	12/23/2007		
1717900044240102	2007	0	Y	007			2869	.224	04/01/2007	.22	03/02/2007		

Clicking on the Method Cnt value will return the **Summary Methods** data for this annual summary.  
Clicking on the Monitor\_ID value will return the **Monitor** data for this annual summary.

[Create ASCII file of this query.](#)

Annual Summary Report  
Go to EPA Home Page Air Data Home Page

April 13, 2009 02:26 PM  
Comments:

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## Example Standard Language for Sulfur Oxides, Carbon Monoxide and Nitrogen Dioxide

### Section 243.122 Sulfur Oxides (Sulfur Dioxide)

- a) Primary Standards. The primary ambient air quality standards for sulfur oxides measured as sulfur dioxide are:
- 1) An annual arithmetic mean concentration of 80 micrograms per cubic meter (0.03 ppm). The level of the annual standard is 0.030 parts per million (ppm), not to be exceeded in a calendar year. The annual arithmetic mean shall be rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm shall be rounded up); and,
  - 2) 2) — A maximum 24-hour concentration not to be exceeded more than once per year of 365 micrograms per cubic meter (0.14 ppm). The level of the 24-hour standard is 0.14 parts per million (ppm), not to be exceeded more than once per calendar year. The 24-hour averages shall be determined from successive nonoverlapping 24-hour blocks starting at midnight each calendar day and shall be rounded to two decimal places (fractional parts equal to or greater than 0.005 ppm).
  - 3) To demonstrate attainment, the annual arithmetic mean and the second-highest 24-hour averages must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 24-hour block average shall be considered valid if at least 75 percent of the hourly averages for the 24-hour period are available. In the event that only 18, 19, 20, 21, 22, or 23 hourly averages are available, the 24-hour block average shall be computed as the sum of the available hourly averages using 18, 19, etc. as the divisor. If fewer than 18 hourly averages are available, but the 24-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph (b) of this section, then this shall be considered a valid 24-hour average. In this case, the 24-hour block average shall be computed as the sum of the available hourly averages divided by 24.
- b) b) — Secondary Standard. The secondary ambient air quality standard for sulfur oxides measured as sulfur dioxide is a maximum 3-hour concentration not to be exceeded more than once per year of 1,300 micrograms per cubic meter (0.5 ppm).
- 1) The level of the 3-hour standard is 0.5 parts per million (ppm), not to be exceeded more than once per calendar year. The 3-hour averages shall be determined from successive nonoverlapping 3-hour blocks starting at midnight each calendar day and shall be rounded to 1 decimal place (fractional parts equal to or greater than 0.05 ppm shall be rounded up).
  - 2) To demonstrate attainment, the second-highest 3-hour average must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 3-

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hour block average shall be considered valid only if all three hourly averages for the 3-hour period are available. If only one or two hourly averages are available, but the 3-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph 1) of this section, then this shall be considered a valid 3-hour average. In all cases, the 3-hour block average shall be computed as the sum of the hourly averages divide by 3.

- c) Measurement Method. For determining conformance with the sulfur oxide air quality standards, sulfur oxides shall be measured as sulfur dioxide by the pararosaniline reference method described in 40 CFR 50, Appendix A, (1982), or by an equivalent method ~~of proof~~ approved by the Agency.

**Section 243.123      Carbon Monoxide**

- a) Standards. The ambient air quality standards for carbon monoxide are:
- 1) A maximum 8-hour concentration not to be exceeded more than once per year of 9 parts per million (ppm)~~10 milligrams per cubic meter (9 ppm)~~; and,
  - 2) A maximum 1-hour concentration not to be exceeded more than once per year of 35 parts per million (ppm)~~40 milligrams per cubic meter (35 ppm)~~.
- b) Measurement Method. For determining conformance with the carbon monoxide air quality standard, carbon monoxide shall be measured by a reference method~~the nondispersive infrared spectrometry technique as described in 40 CFR 50, Appendix C (1982), 36 Fed. Reg. 22,391, November 25, 1971,~~ or by an equivalent method approved by the Agency.

**Section 243.124 Nitrogen Dioxide**

a) ~~a)~~ Standard. The ambient air quality standard for nitrogen dioxide is:

1) ~~an annual arithmetic mean concentration of 0.053 parts per million (ppm) +00 micrograms per cubic meter (0.05 ppm).~~

~~2) The annual standards are attained when the annual arithmetic mean concentration in a calendar year is less than or equal to 0.053 ppm, rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm must be rounded up). To demonstrate attainment, an annual mean must be based upon hourly data that are at least 75 percent complete or upon data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter. .~~

b) Measurement Method. For determining conformance with the nitrogen dioxide air quality standard, nitrogen dioxide shall be measured by a reference method described in 40 CFR 50, Appendix~~the colorimetric method as described in 36 Fed. Reg. 22,396, November 25, 1971,~~ or by an equivalent method approved by the Agency.