

11.0 ADDRESSING 1-HOUR OZONE IN NEW JERSEY

New Jersey was part of four multi-state nonattainment areas for the 1-hour ozone National Ambient Air Quality Standard (NAAQS): Allentown-Bethlehem-Easton, PA-NJ, Atlantic City, Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD, and New York-Northern New Jersey-Long Island, NY-NJ-CT nonattainment areas. The first three areas had attainment dates in 2005 or earlier. All three of these areas have ambient air quality levels that meet the 1-hour ozone NAAQS. New Jersey requests the USEPA find the areas are meeting the 1-hour ozone NAAQS. Further New Jersey submits that this proposed State Implementation Plan (SIP) Revision (the proposed 2007 8-hour ozone attainment demonstration) serve as the 1-hour ozone maintenance plan for the three 1-hour ozone nonattainment areas. New Jersey's fourth 1-hour nonattainment area, the New York nonattainment area, has an attainment date of November 15, 2007. New Jersey is not requesting any action on this area at this time. Through 2006, the ambient air quality in this area does not meet the NAAQS.

11.1 Background

The entire State of New Jersey was divided into four nonattainment areas for the 1-hour ozone NAAQS.¹ Specifically:

- Warren County was associated with the Allentown-Bethlehem-Easton, PA-NJ nonattainment area, required to attain the standard by November 15, 1993;
- Atlantic and Cape May counties were associated with the Atlantic City nonattainment area, required to attain the standard by November 15, 1996;
- Southern New Jersey counties of Burlington, Camden, Cumberland, Gloucester, Mercer and Salem were associated with the Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD nonattainment area (otherwise known as the Philadelphia nonattainment area), required to attain the standard by November 15, 2005; and
- Northern New Jersey counties of Bergen, Essex, Hudson, Hunterdon, Middlesex, Morris, Monmouth, Ocean, Passaic, Somerset, Sussex, and Union were associated with the New York-Northern New Jersey-Long Island, NY-NJ-CT nonattainment area (otherwise known as the New York City nonattainment area), required to attain the standard by November 15, 2007.

According to the USEPA, “[t]he standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 parts per million ($235 \mu\text{g}/\text{m}^3$) is equal to or less than 1.”² Specifically, the number of exceedances at a monitoring site in one calendar year is averaged over three calendar years to determine if the average is equal to or less than one.³ According to guidance issued by the USEPA, the average number of exceedances at a monitor over a three-year period is determined by the fourth highest hourly ozone concentration at a monitor during that three-year period, which is referred to as the design

¹ Nonattainment areas for 1-hour ozone and 8-hour ozone are different. See Chapter 1.

² 40 C.F.R. 50.9(a)

³ 40 C.F.R. 50.9, Appendix H

value of that monitor.⁴ The design value for a nonattainment area is the maximum monitor design value for all monitors for each three-year period.

The USEPA revoked the 1-hour ozone standard for all areas except the 8-hour ozone nonattainment Early Action Compact Areas (EAC) areas (which did not include any New Jersey-associated nonattainment areas) on June 15, 2005.⁵ This revocation occurred prior to the attainment dates for the two severe 1-hour ozone nonattainment areas associated with Philadelphia (2005) and New York City (2007).

On December 22, 2006, the U.S. Court of Appeals for the D.C. Circuit Court (“Court”) ruled that the USEPA “failed to heed the restrictions” in the Clean Air Act when it promulgated its Phase 1 8-Hour Ozone Implementation Rule. The Court decision remanded the matter back to the USEPA for further proceedings. As part of this ruling, the Court upheld the USEPA’s solution for classifying 8-hour ozone Subpart 2 areas. However, the Court ruled that the USEPA had: 1) overstepped its authority in determining which areas were regulated under Subpart 1 of the Clean Air Act as opposed to Subpart 2; and 2) the USEPA inappropriately limited the scope of its interpretation of Section 172(e) of the Clean Air Act by concluding that certain control measures (i.e., New Source Review (NSR)) could be removed from a SIP without constituting backsliding. On March 22, 2007, the USEPA asked for a rehearing of the federal appeals court ruling, stating that the Court wrongfully limited the USEPA’s discretion in determining how the rule should be implemented. On June 8, 2007 the Court clarified that it was not vacating the entire Phase 1 rule and reaffirmed its Subpart 2 ruling including its finding that the USEPA retained the authority to revoke the 1-hour standard subject to antibacksliding limitations.

The decision does not significantly impact the New Jersey-associated 8-hour ozone nonattainment areas. This is because those areas were already classified under Subpart 2 (which was upheld by the Court), and many states in those areas (including New Jersey), given the severity of their ozone problems, did not relax any of their previously implemented control measures, as had been inappropriately allowed under the USEPA Phase 1 8-hour ozone rule. Considering that New Jersey would be subject to the antibacksliding provisions of the Clean Air Act, New Jersey requests that the USEPA take action to find that the Allentown-Bethlehem-Easton PA-NJ, Atlantic City, and Philadelphia 1-hour ozone nonattainment areas are currently meeting that standard. The remainder of this chapter outlines New Jersey’s 1-hour nonattainment areas, and presents air quality data demonstrating that those nonattainment areas are currently meeting the 1-hour ozone standard.

11.2 Allentown-Bethlehem-Easton, Pennsylvania-New Jersey Nonattainment Area

The Allentown-Bethlehem-Easton, PA-NJ nonattainment area was originally classified as ‘marginal’ and was required to attain the 1-hour ozone standard on November 15, 1993.⁶ The

⁴ USEPA Memorandum from William G. Laxton to Region Air Directors, “Ozone and Carbon Monoxide Design Value Calculations,” United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, June 18, 1990.

⁵ 40 C.F.R. 81, Subpart C

⁶ 42 U.S.C. §7511(a)(1) - Table 1.

area attained the 1-hour ozone NAAQS in 1994, but no action was taken to have the area officially redesignated to attainment.

There are currently three ozone monitors operating in the Allentown-Bethlehem-Easton, PA-NJ nonattainment area (all located in the Pennsylvania portion of the nonattainment area). A total of six ozone monitors have been in operation at one time or another within the nonattainment area, although none have operated continuously since monitoring began in the late 1970s. The longest continuously operating monitor in the nonattainment area is the Allentown monitor (42-077-0004), which has operated since 1984. Table 11.1 demonstrates that the Allentown-Bethlehem-Easton PA-NJ nonattainment area continues to meet the 1-hour ozone standard. A violation of the 1-hour standard occurred in the 1999-2001 3-year period in which there were 4 exceedances of the 1-hour standard. No further violations are expected due to the implementation of additional control measures to reduce 8-hour ozone concentrations. New Jersey affirms its position that this 1-hour ozone nonattainment area is meeting the 1-hour ozone standard. New Jersey requests that the USEPA take action to find that the Allentown-Bethlehem-Easton, PA-NJ nonattainment area is meeting the 1-hour ozone standard, and should no longer be subject to any requirements, outside of requisite anti-backsliding measures, for the 1-hour ozone standard.

Table 11.1: 1-Hour Ozone Design Values (parts per million) for the Allentown-Bethlehem-Easton, PA-NJ Nonattainment Area

State	County	Location	1996-1998 DV (ppm)	2004-2006 DV (ppm)
PA	Lehigh	State Hospital	0.114	0.101
	Northampton	Washington and Cambria Sts.	N/A	0.102
	Northampton	17th and Spring Garden Streets	N/A	0.099
	Northampton	Coal St & Milton St.	0.111	N/A
	Northampton	East Market & Wood Sts.	N/A	N/A

11.3 Atlantic City Nonattainment Area

The Atlantic City nonattainment area (Atlantic and Cape May counties) was originally classified as ‘moderate’ and was required to attain the 1-hour ozone standard on November 15, 1996.⁷ New Jersey contended, and the USEPA concurred, that the exceedances in the Atlantic City nonattainment area were the result of overwhelming transport from neighboring metropolitan areas, which deferred the time frame for a complete attainment demonstration. Subsequently, the area met the ozone standards in 1993, 1994, and 1995. On August 27, 1996, the USEPA indicated by letter from USEPA Regional Administrator, Jeanne M. Fox, that the area did not require a 15 percent volatile organic compound (VOC) reduction plan or an attainment demonstration.

⁷ 42 U.S.C. §7511(a)(1) - Table 1.

As with the Allentown-Bethlehem-Easton, PA-NJ nonattainment area, the USEPA, on June 5, 1998, found that the entire Atlantic City nonattainment area was attaining the 1-hour ozone standard and that, therefore, the 1-hour ozone standard was no longer applicable to the counties in that area.⁸

The 1-hour ozone design values in the 1-hour ozone Atlantic City nonattainment area have declined approximately 31 percent from 1988 to 2006. There have been no monitored exceedances of the 1-hour ozone standard for the Atlantic City nonattainment area since 2003. Table 11.2 demonstrates that the Atlantic City nonattainment area continues to meet the 1-hour ozone standard. No violations of the 1-hour ozone standard have occurred in the Atlantic City nonattainment area since the USEPA's finding in 1998 that the area had attained that standard. New Jersey affirms that this 1-hour ozone nonattainment area is meeting the 1-hour ozone standard. New Jersey requests that the USEPA take action to find that the Atlantic City nonattainment area is meeting the 1-hour ozone standard, and should no longer be subject to any requirements, outside of requisite anti-backsliding measures, for the 1-hour ozone standard.

Table 11.2: 1-Hour Ozone Design Values (parts per million) for the Atlantic City Nonattainment Area

State		Location		1996-1998 DV (ppm)	2004-2006 DV (ppm)
NJ	Nacote Creek Research Station (Atlantic County)			0.124	0.099

11.4 Philadelphia Nonattainment Area

The Philadelphia nonattainment area was originally classified as 'severe' and was required to attain the 1-hour ozone standard by November 15, 2005.⁹

As shown by Table 11.3, monitoring data demonstrates that the 1-hour ozone Philadelphia nonattainment area is meeting the standard and came into attainment by its required attainment date. In the 1-hour ozone Philadelphia nonattainment area, all the 2003-2005 design values fall below 0.124 ppm (0.120 ppm standard allowed for rounding to 0.125 ppm), thereby demonstrating attainment of the standard by 2005. Table 11.3 also demonstrates that the Philadelphia nonattainment area continued to meet the 1-hour ozone standard through the 2006 ozone season. New Jersey affirms that this 1-hour ozone nonattainment area is meeting the 1-hour ozone standard. New Jersey requests that the USEPA take action to find that the Philadelphia nonattainment area is meeting the 1-hour ozone standard, and should no longer be subject to any requirements, outside of requisite anti-backsliding measures, for the 1-hour ozone standard.

⁸ 63 Fed. Reg. 31014 (June 5, 1998).

⁹ 42 U.S.C. §7511(a)(1) - Table 1.

Table 11.3: 2005 and 2006 1-Hour Ozone Design Values (parts per million) for the Philadelphia Nonattainment Area

<u>State</u>	<u>County</u>	<u>Location</u>	<u>2003-2005 DV (ppm)</u>	<u>2004-2006 DV (ppm)</u>
NJ	Camden	Ancora S.H.	0.114	0.114
	Camden	Camden Lab	0.114	0.108
	Cumberland	Millville	0.111	0.108
	Gloucester	Clarksboro	0.117	0.113
	Mercer	Rider Univ.	0.110	0.110
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PA	Bucks	Bristol	0.121	0.112
	Chester	New Garden Airport	0.113	0.109
	Delaware	Chester	0.118	0.109
	Montgomery	Norristown	0.107	0.104
	Philadelphia	AMS Lab	0.095	0.080
	Philadelphia	Roxy Water Pump Station	0.108	0.101
	Philadelphia	N.E. Airport	0.110	0.110
	Philadelphia	Amtrak	0.090	0.093
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DE	Kent	384 State Road	0.107	0.101
	New Castle	Lums Pond St. Pk.	0.115	0.108
	New Castle	Brandywine Creek St. Pk.	0.109	0.105
	New Castle	Bellevue St. Pk.	0.109	0.101
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MD	Cecil	Rte. 273	0.120	0.114

11.5 New York Nonattainment Area

The New York nonattainment area was originally classified as ‘severe’ and was not required to attain until November 15, 2007.¹⁰ One-hour ozone design values (i.e., airshed maximum) in the New York nonattainment area from 1991-2006 have declined approximately 29 percent when compared to average design values from 1982-1990 (pre-1990 Clean Air Act Amendments).^{11,12} Table 11.4 demonstrates the overall decreasing trend in 1-hour ozone design values for each current ozone monitor in the New York nonattainment area from 1991 to 2006. Through 2006, the ambient air quality levels in this nonattainment area do not meet the 1-hour NAAQS.

¹⁰ 42 U.S.C. §7511(a)(2)

¹¹ NJDEP. Mid-Course Review for the New Jersey Portion of the Philadelphia-Southern New Jersey and New York-Northern New Jersey 1-Hour Ozone Nonattainment Areas. New Jersey Department of Environmental Protection, Bureau of Air Quality Planning, January 2005.

¹² USEPA. AirData: Access to Air Pollution Data, 2006. United States Environmental Protection Agency, <http://www.epa.gov/air/data/>, Accessed December 7, 2006.

Table 11.4: 1-Hour Ozone Design Values (parts per million) for the New York Nonattainment Area

<u>State</u>	<u>County</u>	<u>Location</u>	<u>1989-1991*</u> <u>DV (ppm)</u>	<u>2004-2006</u> <u>DV (ppm)</u>
NJ	Hudson	Bayonne	0.160	0.114
	Morris	Chester	0.137	0.102
	Ocean	Colliers Mills	0.129 (1991-1993)	0.117
	Hunterdon	Flemington	0.131	0.109
	Monmouth	Monmouth Univ.	0.147 (1990-1992)	0.112
	Middlesex	Rutgers University	0.142	0.125
	Passaic	Ramapo	0.120 (1997-1999)	0.102
	Bergen	Teaneck	0.120 (1999-2001)	0.110
NY	Bronx	200th Street And Southern Blvd (Botanical Gardens)	0.123 (1995-1997)	0.106
	Bronx	E 156th St Bet Dawson And Kelly (IS52)	0.112 (2000-2002)	0.101
	Queens	14439 Gravett Road, 7096-14	0.123 (2001-2003)	0.111
	Queens	Queens, College Pt, 7096-09	0.098 (1998-2000)	No data for 2006
	Richmond	Staten Island, Susan Wagner HS, Brielle Ave.& Manor Rd.	0.141	0.117
	Suffolk	East Farmingdale Water Dist., Gazza Blvd., Babylon	0.152	0.128
	Suffolk	39 Sound Avenue, Riverhead	0.125 (1992-1994)	0.126
	Suffolk	57 Division Street, Holtsville, Monitor 2	0.139 (2000-2002)	0.127
Westchester	White Plains Pump Station, Orchard Street	0.130	0.119	
CT	Fairfield	Danbury	0.136	0.144
	Fairfield	Greenwich	0.150	0.128
	Fairfield	Stratford	0.165	0.135
	Fairfield	Westport	0.133 (1996-98)	0.130

*Not all current ozone monitors had data available for 1991 ozone design values. First available design value is indicated in parentheses.

11.6 Maintenance Plan for 1-Hour Ozone Nonattainment Areas

New Jersey requests that this proposed 2007 8-hour ozone attainment demonstration serve as the 1-hour ozone maintenance plan for the 1-hour ozone Allentown-Bethlehem-Easton, PA-NJ, Atlantic City, and Philadelphia nonattainment areas. The control measures in this proposed attainment demonstration and the contingency plan for 8-hour ozone are more than sufficient to maintain the 1-hour ozone standard. Since the air quality benefits from those measures will allow both 8-hour ozone nonattainment areas to achieve the 8-hour ozone standard, it is reasonable to expect that the 1-hour ozone standard can be maintained, as the 8-hour ozone standard is the more stringent standard.