

US EPA ARCHIVE DOCUMENT

**REVISED: Background Information Document, Hypothetical Nonattainment Areas for Purposes of Understanding the EPA Proposed Rule for Implementing the 8-hour Ozone National Ambient Air Quality Standard in Relation to Re-Opened Comment Period**

**Illustrative Analysis Based on 2000-2002 Data**

U.S. Environmental Protection Agency, Office of Air and Radiation  
Office of Air Quality Planning and Standards  
Draft  
October 2003.

## I. INTRODUCTION

On June 2, 2003 (68 FR 32802), we proposed options for implementing the 8-hour ozone NAAQS, including two different classification options. Classifications establish which requirements apply to individual nonattainment areas and the maximum time frame for areas to attain. We received comments on that proposal, including comments on the classification options we proposed. In considering the comments on this issue, we identified several suggestions that we believe deserve further consideration as they may address concerns noted in the comments. We are therefore re-opening the comment period for the limited purpose of accepting comment on some of the approaches that have been suggested.

The notice that announces the reopening of the comment period provided information about the numbers of areas that would be classified under the several options discussed. To evaluate the potential impact of these classification options, EPA developed a set of 101 hypothetical nonattainment areas based on the counties that have monitors measuring violations of the 8-hour ozone standard for the 3-year period of 2000-2002. It should be noted that EPA identified a set of 122 hypothetical nonattainment areas for purposes of the June 2, 2003, proposal,<sup>1</sup> but this was based on measured violations for the 3-year period 1998-2000.

***Important to note:*** EPA's inclusion and grouping of counties into hypothetical nonattainment areas for purposes of the proposed implementation rule was done solely for the purpose of analyzing and illustrating how the various implementation options might apply to areas designated nonattainment for the 8-hour NAAQS. Although these hypothetical areas were based on actual air quality data (2000-2002), they should not be interpreted as either a proposed or final nonattainment designation. State boundary recommendations, and EPA's final nonattainment designations, may include areas not on this list; and some areas on this list may not be designated as nonattainment, or their boundaries may be different. Finally, this list does not account for areas that may be treated as Early Action Compact areas. Designations, due to be final in April 2004, will be based on the most recent air quality data available, either 2000-2002 or 2001-2003.

This document provides the list of the hypothetical areas, with design values from 2000 to 2002 data and possible classifications under the several alternative classification approaches discussed in our Federal Register notice that re-opens the comment period on our proposed rulemaking.

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<sup>1</sup>Background Information Document, Hypothetical Nonattainment Areas for Purposes of Understanding the EPA Proposed Rule for Implementing the 8-hour Ozone National Ambient Air Quality Standard. Illustrative Analysis Based on 1998-2000 Data. U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards, Draft, April 2003. Available at: <http://www.epa.gov/ttn/naqs/ozone/o3imp8hr/>.

TABLE 1: 8-HR O3 NAAQS HYPOTHETICAL NONATTAINMENT AREAS AND ANTICIPATED CLASSIFICATIONS UNDER OUR PROPOSED OPTION 2 COMPARED WITH TWO ALTERNATIVE CLASSIFICATION APPROACHES INSPIRED BY COMMENTS

This table presents the hypothetical nonattainment areas, their 1-hour and 8-hour ozone design values for 2000 to 2002, their current 1-hour classification/designation status, and the classifications under the options for classification of nonattainment areas under the 8-hour standard corresponding to those discussed in the notice that re-opens the comment period. The notice reopening the comment period shows a table that presents information on one of the two alternative approaches which were proposed in the June 2, 2003 notice and compares it with results from the following two alternative approaches identified in the notice that reopens the comment period:

*Alternative A application (relies only on 8-hour ozone design values for classification):*

This approach uses the concept of starting the classification table's lowest threshold at an 8-hour design value that would approximate the 1-hour design value of 0.121 ppm. This could be the value suggested in comment (0.091 ppm) or some other value determined by us upon further analysis to be equivalent. This approach could then be combined with a suggestion from the comments of translating the classification table for the remaining thresholds using only one-half the classification cut point percentages above the standard.

*Alternative B application (a modification of proposed option 2):*

Under this modified option 2 approach --

- Areas with 1-hour ozone design values of 0.121 ppm or greater would be covered under Subpart 2 and would be classified with revised classification table for the 8-hour standard starting at 0.085 ppm and using 50% of CAA's thresholds.
- Areas meeting both of the following criteria would also be covered under subpart 2:
  - 1-hour design value less than 0.121 ppm and
  - 8-hour design value representing a classification threshold of areas that have relatively high magnitude of an 8-hour ozone problem, for example 0.092 ppm or greater. (0.092 is the upper threshold for moderate areas.)
- All other areas with a 1-hour design value of less than 0.121 ppm would be covered under subpart 1.

Option 2, proposed in the June 2, 2003 notice, relies on an 8-hour nonattainment area's 1-hour ozone design value for determining which subpart applies. If the area has a 1-hour design value equal to or greater than 0.121 ppm, it would be covered under subpart 2 and be classified using the area's 8-hour design value. If the area has a 1-hour design value less than 0.121, it would be covered under subpart 1.

In the June 2 notice, we also proposed an "incentive feature" that would allow areas to qualify for a lower classification under subpart 2 than their air quality would dictate if they demonstrate they will meet the 8-hour standard by the earlier attainment date of a lower classification. For example, an area that would be classified "moderate" could qualify for a "marginal" classification by showing it will attain within 3 years after designation instead of the 6 years for a moderate area. The incentive feature would allow the area in this example to avoid the mandatory control requirements of the moderate classification. The "incentive feature" is proposed for use in conjunction with either classification option. For purposes of the comparison with the newer options under consideration in the re-opened comment period, we are showing Option 2 results without considering the incentive feature. This does not imply, however, that we have decided to not include the incentive feature, nor does it imply that we have decided not to adopt our proposed option 1.

**NOTE:** The EPA's inclusion and grouping of counties into hypothetical nonattainment areas for purposes of the proposed implementation rule was done solely for the purpose of analyzing and illustrating how the various implementation options might apply to areas designated nonattainment for the 8-hour NAAQS. The creation of this set of hypothetical nonattainment areas, while based on actual air quality data from 2000-2002, is not intended to pre-judge the designation process that will occur over the next few months and that will be based on air quality data from 2000-2002 or from 2001-2003, as available. Thus, State recommendations and the final designations by EPA in April 2004, may include as nonattainment areas not on this list, may exclude areas on this list, or may establish different boundaries other than those assumed for this list. Finally, this list does not account for areas that may receive treatment as Early Action Compact areas. This list should not be construed as a proposal by EPA of areas that should be designated nonattainment.

**TABLE 1**  
**(2000 to 2002 data)**  
**8-HR O3 NAAQS HYPOTHETICAL NONATTAINMENT AREAS AND CLASSIFICATIONS UNDER**  
**ALTERNATIVE APPROACHES DISCUSSED IN RE-OPENED COMMENT PERIOD NOTICE**  
(column headings defined below table)

A	B	C	D	E	F	G	H
AREA	1-hr DV	8-hr DV	1hr class	1hr main	Opt 2 no inc	Alt. Approach A--8-hr DV only	Alt. Approach B--Mod Opt 2
Allentown-Bethlehem-Easton, PA-NJ	0.117	0.094			Subpart 1	Marginal	Moderate
Asheville, NC	0.106	0.089			Subpart 1	Subpart 1	Subpart 1
Atlanta, GA	0.144	0.099	Serious		Moderate	Moderate	Serious
Augusta-Aiken, GA-SC	0.112	0.088			Subpart 1	Subpart 1	Subpart 1
Austin-San Marcos, TX	0.103	0.085			Subpart 1	Subpart 1	Subpart 1
Baton Rouge, LA	0.135	0.086	Severe-15		Marginal	Subpart 1	Marginal
Beaumont-Port Arthur, TX	0.144	0.090	Moderate		Marginal	Subpart 1	Marginal
Bell Co, KY (SE KY at TN & VA border)	0.104	0.086			Subpart 1	Subpart 1	Subpart 1
Benton Harbor, MI	0.123	0.090			Marginal	Subpart 1	Marginal
Benzie Co, MI (N on Lake Michigan)	0.116	0.086			Subpart 1	Subpart 1	Subpart 1
Birmingham, AL	0.127	0.092	Marginal		Moderate	Marginal	Moderate
Bloomington, IN (Greene and Jackson Cos, IN)	0.102	0.089			Subpart 1	Subpart 1	Subpart 1
Boston-Lawrence-Worcester (E. MA), MA-NH	0.130	0.093	Serious		Moderate	Marginal	Moderate
Bowling Green, KY	0.104	0.086		Marginal-RT	Subpart 1	Subpart 1	Subpart 1
Buffalo-Niagara Falls, NY	0.116	0.097	Marginal		Subpart 1	Moderate	Moderate
Canton-Massillon, OH	0.109	0.089			Subpart 1	Subpart 1	Subpart 1
Charleston, WV	0.105	0.085		Moderate	Subpart 1	Subpart 1	Subpart 1
Charlotte-Gastonia-Rock Hill, NC-SC	0.130	0.102		Moderate	Moderate	Moderate	Serious
Chattanooga, TN-GA	0.119	0.093			Subpart 1	Marginal	Moderate
Chicago-Gary-Lake County, IL-IN (WI)	0.135	0.100	Severe-17		Moderate	Moderate	Serious
Chico, CA	0.107	0.089	Sec185a		Subpart 1	Subpart 1	Subpart 1
Cincinnati-Hamilton, OH-KY-IN	0.121	0.096	Moderate		Moderate	Marginal	Moderate
Clarksville-Hopkinsville, TN-KY	0.101	0.085			Subpart 1	Subpart 1	Subpart 1
Cleveland-Akron, OH	0.128	0.099		Moderate	Moderate	Moderate	Serious

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A AREA	B 1-hr DV	C 8-hr DV	D 1hr class	E 1hr main	F Opt 2 no inc	G Alt. Approach A--8-hr DV only	H Alt. Approach B--Mod Opt 2
Columbia, SC	0.115	0.093			Subpart 1	Marginal	Moderate
Columbus, OH	0.117	0.090		Marginal	Subpart 1	Subpart 1	Subpart 1
Dallas-Fort Worth, TX	0.135	0.099	Serious		Moderate	Moderate	Serious
Dayton-Springfield, OH	0.112	0.090		Moderate	Subpart 1	Subpart 1	Subpart 1
Decatur, AL	0.107	0.085			Subpart 1	Subpart 1	Subpart 1
Detroit-Ann Arbor-Flint, MI	0.119	0.088		Moderate	Subpart 1	Subpart 1	Subpart 1
Erie, PA	0.108	0.088	Marginal		Subpart 1	Subpart 1	Subpart 1
Essex Co, NY (Whiteface Mountain)	0.108	0.086	Marginal-RT		Subpart 1	Subpart 1	Subpart 1
Evansville-Henderson, IN-KY	0.108	0.087		Marginal	Subpart 1	Subpart 1	Subpart 1
Fayetteville, NC	0.108	0.087			Subpart 1	Subpart 1	Subpart 1
Florence, SC	0.103	0.086			Subpart 1	Subpart 1	Subpart 1
Fort Wayne, IN	0.104	0.088			Subpart 1	Subpart 1	Subpart 1
Grand Rapids-Muskegon-Holland, MI	0.123	0.092		Moderate	Moderate	Marginal	Moderate
Greater Connecticut, CT	0.139	0.100	Serious		Moderate	Moderate	Serious
Green Bay- Appleton-Oshkosh-Neenah-Door, WI	0.11	0.091		Marginal RT	Subpart 1	Marginal	Moderate
Greensboro-Winston Salem-High Point, NC	0.121	0.095		Moderate	Moderate	Marginal	Moderate
Greenville-Spartanburg-Anderson, SC	0.114	0.090		Marginal	Subpart 1	Subpart 1	Subpart 1
Hancock & Waldo Cos, ME	0.120	0.093		Marginal	Subpart 1	Marginal	Moderate
Harrisburg-Lebanon-Carlisle, PA	0.114	0.094	Marginal		Subpart 1	Marginal	Moderate
Hickory-Morganton-Lenoir, NC	0.110	0.091			Subpart 1	Marginal	Moderate
Houston-Galveston-Brazoria, TX	0.175	0.107	Severe-17		Serious	Serious	Severe-15
Huntington-Ashland, WV-KY-OH	0.115	0.088		Moderate	Subpart 1	Subpart 1	Subpart 1
Indianapolis, IN	0.119	0.093		Marginal	Subpart 1	Marginal	Moderate
Jamestown, NY	0.115	0.092			Subpart 1	Marginal	Moderate
Johnson City-Kingsport-Bristol, TN-VA	0.113	0.092			Subpart 1	Marginal	Moderate
Johnstown, PA	0.106	0.088	Marginal		Subpart 1	Subpart 1	Subpart 1
Kansas City, MO-KS	0.115	0.085		Other	Subpart 1	Subpart 1	Subpart 1
Knoxville, TN	0.118	0.098		Marginal	Subpart 1	Moderate	Moderate
Lancaster, PA	0.118	0.094	Marginal		Subpart 1	Marginal	Moderate
Lima, OH	0.108	0.088			Subpart 1	Subpart 1	Subpart 1

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A AREA	B 1-hr DV	C 8-hr DV	D 1hr class	E 1hr main	F Opt 2 no inc	G Alt. Approach A--8-hr DV only	H Alt. Approach B--Mod Opt 2
Little Rock-North Little Rock, AR	0.114	0.086			Subpart 1	Subpart 1	Subpart 1
Longview-Marshall, TX	0.122	0.088			Marginal	Subpart 1	Marginal
Los Angeles South Coast Air Basin, CA (LA CMSA)	0.169	0.128	Extreme		Severe-17	Severe-17	Severe-17
Louisville, KY-IN	0.114	0.090		Moderate	Subpart 1	Subpart 1	Subpart 1
Macon, GA	0.125	0.092			Moderate	Marginal	Moderate
Mason Co, MI (N on Lake Michigan)	0.116	0.087			Subpart 1	Subpart 1	Subpart 1
Memphis, TN-AR-MS	0.123	0.094		Marginal	Moderate	Marginal	Moderate
Milwaukee-Racine, WI	0.134	0.100	Severe-17		Moderate	Moderate	Serious
Murray Co, GA (E of Chattanooga)	0.104	0.087			Subpart 1	Subpart 1	Subpart 1
Nashville, TN	0.116	0.088		Moderate	Subpart 1	Subpart 1	Subpart 1
New Orleans, LA	0.122	0.085		Sec185A	Marginal	Subpart 1	Marginal
New York-N. New Jersey- L.Island,NY-NJ-CT-PA	0.149	0.115	Severe-17		Serious	Severe-15	Severe-17
Norfolk-Virginia Beach- Newport News, VA-NC	0.117	0.089		Marginal	Subpart 1	Subpart 1	Subpart 1
Owensboro, KY-IN (includes Perry Co, IN)	0.115	0.090		Marginal	Subpart 1	Subpart 1	Subpart 1
Parkersburg-Marietta, WV-OH	0.113	0.088		Moderate	Subpart 1	Subpart 1	Subpart 1
Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE	0.143	0.107	Severe-15		Serious	Serious	Severe-15
Phoenix-Mesa, AZ	0.107	0.085	Serious		Subpart 1	Subpart 1	Subpart 1
Pittsburgh, PA (WV)	0.119	0.095		Moderate	Subpart 1	Marginal	Moderate
Portland, ME	0.126	0.090	Moderate		Marginal	Subpart 1	Marginal
Providence (All RI), RI	0.130	0.097	Serious		Moderate	Moderate	Moderate
Putnam Co, TN (between Nashville & Knoxville)	0.102	0.086			Subpart 1	Subpart 1	Subpart 1
Raleigh-Durham-Chapel Hill, NC	0.118	0.094		Moderate	Subpart 1	Marginal	Moderate
Reading, PA	0.113	0.093		Moderate	Subpart 1	Marginal	Moderate
Richmond-Petersburg, VA	0.124	0.090		Moderate	Marginal	Subpart 1	Marginal
Roanoke, VA	0.107	0.087			Subpart 1	Subpart 1	Subpart 1
Rochester, NY	0.110	0.085			Subpart 1	Subpart 1	Subpart 1
Rocky Mount, NC	0.106	0.088			Subpart 1	Subpart 1	Subpart 1
Sacramento Metro, CA	0.143	0.106	Severe-15		Moderate	Serious	Severe-15
San Antonio, TX	0.119	0.086			Subpart 1	Subpart 1	Subpart 1



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A AREA	B 1-hr DV	C 8-hr DV	D 1hr class	E 1hr main	F Opt 2 no inc	G Alt. Approach A--8-hr DV only	H Alt. Approach B--Mod Opt 2
San Diego, CA	0.118	0.095	Serious		Subpart 1	Marginal	Moderate
San Joaquin Valley, CA	0.151	0.115	Severe-15		Serious	Severe-15	Severe-17
Scranton-Wilkes-Barre-Hazleton, PA	0.112	0.085	Marginal		Subpart 1	Subpart 1	Subpart 1
Sheboygan, WI	0.123	0.099		Moderate	Moderate	Moderate	Serious
South Bend-Elkhart, IN	0.123	0.090		Marginal	Marginal	Subpart 1	Marginal
Southeast Desert Modified AQMA, CA (LA CMSA)	0.147	0.105	Severe-17		Moderate	Serious	Serious
Springfield (Western MA), MA	0.132	0.092	Serious		Moderate	Marginal	Moderate
St Louis, MO-IL	0.123	0.090		Serious	Marginal	Subpart 1	Marginal
State College, PA	0.109	0.085			Subpart 1	Subpart 1	Subpart 1
Steubenville-Weirton, OH-WV	0.110	0.086		Sect- 185A	Subpart 1	Subpart 1	Subpart 1
Syracuse, NY	0.121	0.091			Marginal	Marginal	Moderate
Toledo, OH	0.111	0.089		Moderate	Subpart 1	Subpart 1	Subpart 1
Tulsa, OK	0.122	0.087			Marginal	Subpart 1	Marginal
Ventura Co, CA (part of LA CMSA)	0.124	0.097	Severe-15		Moderate	Moderate	Moderate
Washington-Baltimore, DC-MD-VA-WV	0.143	0.106	Severe-15		Moderate	Serious	Severe-15
Wheeling, WV-OH	0.109	0.085			Subpart 1	Subpart 1	Subpart 1
York, PA	0.114	0.092	Marginal		Subpart 1	Marginal	Moderate
Youngstown-Warren-Sharon, PA-OH	0.116	0.092	Marginal		Subpart 1	Marginal	Moderate

Column	Definition
A	Name of hypothetical 8-hr O3 nonattainment area
B	1-hr O3 design value for 2000-2002 (ppm O3)
C	8-hr O3 design value for 2000-2002 (ppm O3)
D	Area's current classification if nonattainment under 1-hr O3 NAAQS (blank if maintenance or never attainment)
E	No entry means either the area is nonattainment (see col. D) or is attainment and has never been nonattainment. Entry indicates area is designated attainment and has a maintenance plan--the entry is the area's former classification
F	Area's 8-hr classification under proposed classification option 2 without the incentive feature
G	Area's 8-hr classification under Alternative Approach A of notice to re-open comment period (relies only on 8-hour ozone design values for classification)

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H	Area's 8-hr classification under Alternative Approach B of notice to re-open comment period (a modification of proposed option 2)
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