

US EPA ARCHIVE DOCUMENT

**This paper reflects preliminary agency thoughts and ideas and the options presented have not been thoroughly analyzed for legal defensibility**

draft 3/01/02

## **Classification of Nonattainment Areas for the 8-hour Standard**

**Issue:** How should EPA classify nonattainment areas under the 8-hour standard?

### **Background/Context**

- The nonattainment area provisions are found in the Clean Air Act, Title I, Part D. Subpart 1 contains general requirements for SIPs for all nonattainment areas; subpart 2 provides more specific requirements for ozone.
- When EPA published the 8-hr ozone standard in July 1996, EPA indicated it would implement the standard under the less prescriptive subpart 1 requirements.
- The 8-hr ozone standard is: 0.08 parts per million (ppm), daily maximum 8-hour average. The standard is met when the average (over 3 years) of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm.
- The 1-hr ozone standard is: 0.12 parts per million. The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 parts per million is equal to or less than 1.
- In February 2001, the Supreme Court upheld the constitutionality of the standard-setting process in the CAA, but ruled that EPA's implementation approach was unlawful and that EPA could not ignore subpart 2 when implementing the 8-hr standard.
- The Supreme Court said,
  - “[D]oes subpart 2 provide for classifying nonattainment ozone areas under the revised standard? It unquestionably does.”
  - “Whereas Subpart 1 gives the EPA considerable discretion to shape nonattainment programs, Subpart 2 prescribes large parts of them by law. Compare 7502(c) and (d) with 7511a.”
  - “EPA may not construe the statute in a way that completely nullifies textually applicable provisions meant to limit its discretion”
- The Supreme Court recognized gaps in the subpart 2 scheme, however, and left it to EPA to develop a reasonable resolution of the roles of subparts 1 and 2 in implementing a revised ozone standard.
  - “It may well be ... that some provisions of Subpart 2 are ill fitted to implementation of the revised standard.” Specifically noting:

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- “Using the old 1-hour averages of ozone levels, for example, as subpart 2 requires ... would produce at best an inexact estimate of the new 8-hour averages.”
- “To the extent the new ozone standard is stricter than the old one, ... the classification system of Subpart 2 contains a gap, because it fails to classify areas whose ozone levels are greater than the new standard (and thus nonattaining) but less than the approximation of the old standard codified by Table 1.”
- “Subpart 2’s method for calculating attainment dates – which is simply to count forward a certain number of years from November 15, 1990 ... seems to make no sense for areas that are first classified under a new standard after November 15, 1990.”

#### **Assumptions**

- Areas that are covered under subpart 1 may still be classified under an additional yet-to-be-identified classification scheme

#### **Options**

**Option 1**—Classify 8-hr O<sub>3</sub> nonattainment areas under subpart 2, table 1 and, as appropriate, under subpart 1, *based on 1-hr O<sub>3</sub> design values*.

- This option would implement subpart 2 classification provision in table 1 as written, using an area’s current 1-hr ozone design values.
- Under this option, some areas would be classified under subpart 2. However, more than half the expected number of nonattainment areas would be “submarginal” and covered under subpart 1, since their design values fall below the minimum value in table 1. This would provide more flexibility in implementation for those areas covered under subpart 1.
- An area’s 1-hr design value, however, may not reflect the area’s 8-hr O<sub>3</sub> problem and would produce some inequities (e.g., a “submarginal” area covered under subpart 1 may have a higher 8-hr ozone design value than another area that is marginal or even moderate and covered under subpart 2).

**Option 2**—Classify 8-hr nonattainment areas *based on 8-hr O<sub>3</sub> design values*.

- Would require regulatory change of Table 1 to reflect 8-hr DV’s. One way of “translating” the 1-hr values to 8-hr values is by using the percentages of table 1’s classification cutpoints above the 1-hr standard and applying them to the 8-hr standard—see attached table.
- This option would use 8-hr DV’s to more accurately reflect the magnitude of the problem.

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- All 8-hr nonattainment areas would be classified under subpart 2. In general, areas classified under subpart 2 would need to meet subpart 2 requirements for their classification level (see separate issue paper on mandatory measures).

**Option 3—Classify *based on 8-hr O3 design values*** (similar to option 2), except that any area would be classified as marginal if *EPA-acceptable available modeling information* indicates that the area will attain the 8-hr O3 standard in the short term (e.g., 3 years after designation) as a result of existing control measures

- Would also require regulatory change of Table 1 to reflect 8-hr DV's for existing classifications (similar to option 2)
- All areas would be covered under subpart 2, which would limit flexibility; however a number of areas that would be classified moderate under option 2 would be classified marginal under option 3 because of their projected 2007 values. Marginal areas have fewer mandatory requirements than moderate areas.
- The rationale for reliance on modeled results in this option is based on analogy to Congressional intent regarding the linkage between control obligations and the time necessary to attain in the 1990 CAA Amendments—marginal areas had an attainment date of 1993 and were expected to come into attainment through previously required controls.
- Incentive feature: An area that is classified moderate or above, but that submits an approvable SIP within a limited time after designation/classification, may be reclassified to a lower classification consistent with the attainment date in their SIP.
- Tracking: Areas classified based on modeled attainment (i.e., based on the areas's modeled attainment SIP or EPA-modeled future design values) would have to demonstrate that their SIP provides for adoption and continued implementation of any measures assumed in the modeling. They also would have to ensure over time that post-designation and post-attainment-date emissions levels are consistent with the modeling (as would all nonattainment areas).

**Option 4 – Hybrid 2-step approach.** Use 1-hr design value to determine which areas are required to be placed under subpart 2, then classify all areas considering 8-hr design values

**Step 1:** Separate areas into two groups based on whether their 1-hour design value would require them to be placed in subpart 2. Under one possible interpretation of the Supreme Court decision, areas with 1-hr design values at or above 0.121 ppm (the lowest end of the range in subpart 2's table 1) must be classified under subpart 2, while EPA has discretion to determine whether areas with a design value below 0.121 ppm are subject to subpart 1 or subpart 2. Based on this reading, EPA would separate areas into two groups: areas with 1-hr. design values below 0.121 ppm (Group 1 areas), and areas with 1-hr ozone levels at or above this level (Group 2 areas).

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**Step 2: Classify areas.** For Group 1 areas, EPA would need to develop a reasonable approach for determining which subpart (subpart 1 or subpart 2) should apply to specific areas or groups of areas. For areas that EPA determined would be subject to subpart 1, EPA would develop a classification scheme. That classification scheme might be similar in many respects to the subpart 2 scheme, but could provide greater flexibility in considering what requirements should apply. Group 2 areas and any Group 1 areas placed in subpart 2 would receive subpart 2 classifications according to their 8-hr ozone design value (consistent with the approach in Option 2).

- What factors should EPA consider in determining whether some or all Group 1 areas should be subject to subpart 1? Should areas with an 8-hour design value similar to the 8-hour design value for Group 2 areas be placed under subpart 2? If some areas with 8-hour design values similar to the 8-hour design value for areas in Group are classified under subpart 1, should EPA require the areas subject to subpart 1 to meet requirements similar to the areas subject to subpart 2 (e.g., the same attainment dates, the same or similar ROP/RFP requirements)?
- The areas that would fall under subpart 2 would generally be those with the most serious ozone problem (although there are exceptions).

### **Implications for the options**

For analysis purposes, EPA has grouped counties that violate the 8-hr standard (using 1997, 1998 and 1999 data) into 121 hypothetical nonattainment areas. The attached table presents the numbers of areas that would be classified based on each of the above options. The table was developed such that Option 4 was based on all Group 1 areas remaining in subpart 1, although as noted above, for Group 1 areas, EPA would need to develop a reasonable approach for determining which subpart (subpart 1 or subpart 2) should apply to specific areas or groups of areas.

### **Links to other issues:**

The resolution of this issue on how to classify 8-hr ozone nonattainment areas has implications for a number of the other issues related to implementation of the 8-hr standard, including those addressing transportation planning (such as TEA-21 provisions), whether there is flexibility in implementing the mandatory measures under subpart 2, and attainment dates.

2/11/02					
TABLE 1/SUBPART 2 1-HR O3 CLASSIFICATION TABLE					
TRANSLATION TO 8-HR DESIGN VALUES					
Area class		cutpoints	% above	Translated 8-hr	Primary standard attainment date
		1-hr O3 ppm	1-hr O3 NAAQS	cutpoints ppm	
Marginal	from	0.121	0.833	0.081	3 years after enactment
Marginal	up to	0.138	15.000	0.092	
Moderate	from	0.138	15.000	0.092	6 years after enactment
Moderate	up to	0.160	33.333	0.107	
Serious	from	0.160	33.333	0.107	9 years after enactment
Serious	up to	0.180	50.000	0.120	
Severe -15	from	0.180	50.000	0.120	15 years after enactment
Severe -15	up to	0.190	58.333	0.127	
Severe -17	from	0.190	58.333	0.127	17 years after enactment
Severe -17	up to	0.280	133.333	0.187	
Extreme	equal to or above	0.280	133.333	0.187	20 years after enactment

COUNTS OF HYPOTHETICAL NONATTAINMENT AREAS										
	Ext	Sev17	Sev15	Ser	Mod	Marg	Other *	Submarg	Rest	Total
<b>CURRENT 1-HR CLASSIFICATIONS</b>										
Nonattainment	1	5	4	14	10	21	20			75
Maintenance					21	22	16			59
The above areas are not the same as the rest of the table in certain situations.										
Areas NAA and Maint	1	5	3	11	20	31	6			77
Areas NAA	1	5	3	11	4	14	3			41
Areas Maintenance					16	17	3			36
Areas Rest (new 8-hr areas)									44	44
Total										121
<b>POTENTIAL 8-HR CLASSIFICATION OPTIONS (1997-1999 data)</b>										
Option 1 (1-hr DV)	0	2	0	2	9	36		72		121
Option 2 (8-hr DV)	0	1	1	5	49	65		0		121
Option 3 (8-hr DV, but marginal if projected to attain in 2007)	0	1	1	5	32	82		0		121
Option 4– (2-steps; 1hr DV to place in subpart 1 or 2; 8hr DV to classify subpart 2 areas)**	0	1	1	5	33	9		72		121
* Other are incomplete data areas, sect. 185B areas,										
** Assumes for counting purposes all areas placed in subpart 1 by the 1-hr DV would remain in subpart 1—see “implications for options above”										