

Signed 8-18-04

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OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

MEMORANDUM

SUBJECT: Guidance on 5% Increment of Progress (40 CFR 51.905(a)(1)(ii))
FROM: Lydia Wegman, Director *Lydia Wegman*
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TO: Air Division Directors, Regions I-X

This memorandum transmits guidance on one of the options for meeting an obligation for an approved 1-hour attainment plan contained in 40 CFR 51.905(a)(1). This option calls for States to submit a reasonable further progress plan providing a 5% increment of emissions reductions from the area's 2002 emissions baseline. This guidance provides further information on how to determine the baseline and target level emissions and on which emission reductions are creditable.

Please share this guidance with your State and local counterparts. If you have further questions, please contact Doug Grano of my staff, at (919) 541-3292.

Attachment



**GUIDANCE ON 5 PERCENT INCREMENT OF
PROGRESS 40 CFR.905(a)(1)(ii)(B)**

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40 CFR.905(a)(1)(ii)(B)**

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August 2004

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LIST OF ABBREVIATIONS

CAA	Clean Air Act
CFR	Code of Federal Regulations
CERR	Consolidated Emissions Reporting Rule
EPA	Environmental Protection Agency
NAAQS	National Ambient Air Quality Standards
NO_x	Nitrogen Oxides
OTC	Ozone Transport Commission
SIP(s)	State Implementation Plan(s)
VOC	Volatile Organic Compound

1. *Why have we developed this guidance?*

On April 30, 2004, the Environmental Protection Agency (EPA) issued a final rule for key elements of the program to implement the 8-hour National Ambient Air Quality Standard (NAAQS) for ozone. One provision of the rule provided options for States with areas that have an outstanding requirement for an approved 1-hour attainment demonstration. This provision, 40 CFR 51.905(a)(1)(ii), provides three options for areas that have not met the obligation to have an approved 1-hour attainment plan for ozone:

1. Submit a 1-hour attainment demonstration no later than 1 year after designation.
2. Submit a Reasonable Further Progress (RFP) plan for the 8-hour NAAQS no later than 1 year following designations for the 8-hour NAAQS providing a 5 percent increment of emissions reductions from the area's 2002 emissions baseline. The 5 percent increment must be in addition to measures (or enforceable commitments to measures) in the State Implementation Plan (SIP) at the time of the effective date of designation and in addition to national measures, and must be achieved no later than 2 years after the required date for submission (3 years after designation).
3. Submit an 8-hour ozone attainment demonstration no later than 1 year following designations that demonstrates attainment of the 8-hour NAAQS by the area's attainment date; provides for 8-hour RFP for the area out to the attainment date; and, for the initial period of RFP for the area (between 2003-2008), achieves the emissions reductions by December 31, 2007.

States should work closely with the applicable EPA regional office as they move forward to determine which option is most appropriate.

This guidance is to provide EPA's expectations on how States should implement the option in 40 CFR.905(a)(1)(ii)(B), which will be referred to as the "5 percent increment of progress" option. Guidance is necessary to assist States in the adoption of approvable programs.

2. *What does it mean that this is guidance and not a regulation?*

The Clean Air Act (CAA) and implementing regulations at 40 CFR Part 51 contain legally binding requirements. This guidance document does not supercede or change those provisions or regulations, nor is it a regulation itself. Thus, it does not impose binding, enforceable requirements on any party. The EPA and State decision makers retain the discretion to adopt approaches that differ from this guidance where appropriate. Any final decisions by EPA regarding a particular SIP revision will be made based on the statute and regulations in the context of EPA rulemaking on the submitted SIP revision. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guidance to a particular situation; EPA will, and States should, consider whether or not the recommendations in the guidance are appropriate for each specific area. This guidance is a living document and may be revised periodically without

public notice. The EPA welcomes public comments on this document at any time and will consider those comments in any future revision of this guidance document.

3. *What is the baseline for the 5 percent increment?*

The rule clearly states that the reductions should be from the 2002 emissions baseline. In this guidance we are clarifying that the emissions reductions will be from the 2002 anthropogenic or man-made emissions for the entire 8-hour ozone nonattainment area. The emissions baseline will include emissions from sources in any counties that are part of the designated 8-hour nonattainment area. For the rate of progress calculation, biogenic emissions should not be considered. This is consistent with past practices for reasonable further progress plans. The EPA recognizes that biogenic emissions can be significant in many areas, which is why these emissions must be included in any attainment plan modeling.

The States may use the 2002 Consolidated Emissions Reporting Rule (CERR) summer work weekday inventory for the 5 percent increment of progress calculation since it is the most current inventory available. This inventory will have to go through the State's regulatory process for inclusion in the SIP, including public hearing. Only those parts of the 2002 CERR upon which the 5% calculation is based, need to be submitted (i.e. the Volatile Organic Compounds (VOC) and Nitrogen Oxide (NOx) inventories for the nonattainment area).

Final 2002 SIP inventory requirements will be included in the 8-hour ozone Phase II Implementation Guidance rule and may require some adjustments to the 5 percent increment of progress inventory for future 8-hour ozone reasonable further progress SIPs.

4. *How is the 5 percent increment calculated?*

The EPA believes that a straightforward approach for calculating needed emission reductions can be used.

- 1) Determine the 2002 anthropogenic inventory for VOC and/or NOx;
- 2) Multiply by 0.05;
- 3) Develop a 2007 inventory including growth, fleet turnover, and measures already in the EPA-approved SIP; and
- 4) Subtract the result from line 2 from line 3 to get the target level of emissions to be achieved by June 15, 2007.

To meet the 5 percent increment of progress requirement, States must develop a plan that has sufficient control measures to insure that the area's emissions in 2007 will be less than or equal to the target level of emissions.

5. Can NOx and/or VOC Reductions be used?

Both NOx and VOC emission reductions can be used to meet the RFP target. For purposes of RFP under the ozone provisions of the CAA, percentage reductions are required for VOC emissions. For other than the 15 percent requirement in section 182(b), NOx emissions reductions may be substituted for VOC emissions reductions. In other words, the percentage reduction requirements do not apply separately to VOC and NOx such that an area must meet, e.g., a 9 percent reduction in NOx and also a 9 percent reduction in VOC emissions over a given 3 year period. We interpret the 5 percent RFP requirement in our section 51.905(a) of our regulations in the same manner that RFP reductions apply under the statute—i.e., that an area must achieve a 5 percent reduction in VOC emissions, but may substitute NOx emissions reductions for VOC. If both pollutants are used, then two separate calculations must be made as follows:

- 1) Determine the 2002 anthropogenic inventory for VOC;
- 2) Multiply by $x/100$ where x is the percentage of VOC reductions planned;
- 3) Develop a 2007 inventory including growth, fleet turnover, and measures already in the EPA-approved SIP; and
- 4) Subtract the result from line 2 from line 3 to get the target level of emissions to be achieved by June 15, 2007.
 - 1) Determine the 2002 anthropogenic inventory for NOx;
 - 2) Multiply by $y/100$ where y is the percentage of NOx reductions planned;
 - 3) Develop a 2007 inventory including growth, fleet turnover, and measures already in the EPA-approved SIP; and
 - 4) Subtract the result from line 2 from line 3 to get the target level of emissions to be achieved by June 15, 2007.
 - 5) The sum of x and y must equal 5 percent.

The EPA believes that the 5 percent increment of progress plan should be generally consistent with the policy for emissions reductions put forth in EPA's NOx substitution guidance.¹ In particular, the August 5, 1994 clarification to the guidance which deals with areas that do not have attainment demonstration plans is pertinent here because areas using the 5 percent increment of progress option would not be expected to have any approved attainment plans for ozone at the time the 5 percent increment of progress is submitted.

¹These are the NOx Substitution Guidance, December 1993; the August 5, 1994, memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, entitled "Clarification of Policy for Nitrogen Oxides (NOx) Substitution"; and, the December 29, 1997 memorandum from Richard D. Wilson, Acting Assistant Administrator for Air and Radiation, entitled "Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM10 NAAQS."

The August 5, 1994 guidance provides two criteria for substituting NOx reductions for VOC reductions. First, the State must have adopted its NOx Reasonably Available Control Technology (RACT) rules. For the purposes of the 5 percent increment of progress plan, EPA expects that areas will have met the NOx RACT requirement for most 1-hour purposes. However, there may be areas that have not yet adopted RACT for certain 1-hour purposes such as to meet the lower major source threshold due to a recent bump up. Areas also may not have adopted RACT for certain 8-hour purposes. For example, areas may have additional counties added to the one-hour area as part of the 8-hour designation. As adoption of NOx RACT is not yet required in these instances, EPA does not believe it is necessary to meet the first criteria of adopting NOx RACT in instances where the deadline for adopting NOx RACT has not yet passed. The second criterion is that the State should reference an ozone modeling analysis showing that the NOx reductions will be "useful" in reducing ozone concentrations. We recognize, because of the short time frame to develop these plans, the modeling may be modeling based on the 1-hour standard, or may be regional modeling conducted by EPA, such as the NOx SIP call modeling, or the Clean Air Interstate Rule modeling. While EPA believes that modeling generally provides the most comprehensive information on the benefits of NOx control, we may accept other technical analyses on a case-by-case basis.

6. *How is Growth in emissions addressed?*

The EPA believes that emissions growth in most areas will be more than offset by the expected emissions reductions that will accrue due to the introduction of newer on and off-road vehicles into the fleet. Under the above approach, however, there is a small possibility that in a very rapidly growing area, a net emissions reduction would not actually be achieved from the 2002 inventory. Therefore, States should be sure that the projected target level inventory calculated in line 4 above is at least 5 percent less than the 2002 inventory (or the appropriate percentage of NOx and VOC if a combination of pollutants is used), that is, that the 2007 projected inventory is no greater than 95 percent of the 2002 inventory.

If the target level as calculated above is not at least 5 percent lower than the 2002 inventory, then the State must implement additional reductions to meet a 2007 target level that is determined by an alternative approach as follows:

If only NOx or VOC is being used, then in lieu of "develop a 2007 inventory including growth and fleet turnover and measures already in the SIP," line 3 becomes:

3) multiply the 2002 inventory by 0.95

If both NOx and VOC reductions are planned, then line 3 for VOC becomes,

3) $[1 - (x/100)] * \text{line 1}$ where x is the percentage of VOC reductions planned from line 2,

and line 3 for NOx becomes,

3) $[1 - (y/100)] * \text{line 1}$ where y is the percentage of NOx reductions planned from line 2.

As before, the sum of x + y must = 5 percent.

7. *What measures are not creditable?*

The rule is very clear that national measures are not creditable toward the 5 percent increment. These would include any national standards for on-road vehicles such as the heavy duty diesel rule and the Tier II/Low sulfur rules. It would also include national standards for off-road vehicles.

The rule also states that regional measures would not be creditable. An example of a regional measure is emissions reductions relied on to meet the NOx SIP call.

Finally, measures that are already approved by EPA as part of the SIP as of the effective date of designation for the 8-hour standard are not creditable. Essentially any measure that has been submitted as part of the SIP and which EPA has approved, with the effective date of the approval falling earlier than June 15, 2004, is not creditable toward the 5 percent requirement. This includes emissions reductions expected in response to enforceable commitments approved by EPA prior to June 15, 2004.

8. *What measures are creditable?*

Any measures that are not part of the EPA approved SIP prior to June 15, 2004 are creditable. These could include mandatory measures that the State has adopted as a result of the 8-hour designation. For example, if counties have been added to a previous 1-hour nonattainment area as part of the 8-hour designations, and the State chooses to adopt reasonable available control technology controls early for these newly designated counties, the reductions that would be achieved would be creditable so long as they occurred prior to June 15, 2007.

Qualified measures that States have adopted but EPA has not yet approved for inclusion in the SIP can also be credited to the 5 Percent Increment of Progress Plan.

Reductions from outside the nonattainment area that are not already in the approved SIP and are not relied on to meet the NOx SIP call budget are creditable if consistent with previous EPA guidance,² provided they occur within 100 km of the nonattainment area for VOCs or within 200 kilometers for NOx but only in conjunction with a demonstration that, in addition to the 100km/200km criteria, the reductions have been shown to impact the nonattainment area. This could be done by analyzing wind rose data, available modeling, etc. States utilizing this approach should remember that it will be necessary to add the emissions from the source or sources where the reductions are occurring to the baseline inventory.

All measures for inclusion should meet the general criteria for SIP approval of being permanent, quantifiable and enforceable.

² December 29, 1997 memorandum from Richard D. Wilson, Acting Assistant Administrator for Air and Radiation, entitled "Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM10 NAAQS." Note: This guidance may be revised in the future due to on-going litigation and comments received on EPA's June 2, 2003 proposal on implementing the 8-hour ozone standard.

9. *When do the reductions need to be achieved?*

As noted in the rule, all emission reductions must be achieved within 3 years after the effective date of the designations for the 8-hour standard. The effective date of the designations is June 15, 2004, and thus all required emission reductions must be achieved by June 15, 2007.

10. *Does the 5 percent Increment of Progress Plan provide a motor vehicle emissions budget that can be used for conformity purposes?*

Yes, the 5 percent Increment of Progress Plan will establish an 8-hour motor vehicle emissions budget because the goal of the rule is to provide RFP toward the 8-hour NAAQS. Therefore, States should establish the target level of VOC and NOx emissions that can be allowed in the area to meet the 5 percent increment of progress requirement. From that target level of emissions, an on-road motor vehicle emissions budget should be established and provided with the SIP revision. This budget will apply under the conformity regulations for purposes of the 8-hour standard once EPA finds it adequate and 8-hour conformity applies in the area.

Note that, per section 93.118 of the transportation conformity regulation, budgets cannot be used for conformity until EPA has either found the budgets “adequate” or approved the SIP in which they are contained. Please refer to the final transportation conformity rule at **69 FR 40003**.