holders of the Notes. Public announcement of such changes will be promptly provided.

6.3. The Notes issued under this circular shall be obligations of the United States, and, therefore, the faith of the United States Government is pledged to pay, in legal tender, principal and interest on the Notes.

Gerald Murphy,

Fiscal Assistant Secretary.

[FR Doc. 87-27063 Filed 11-20-87; 10:04 am]

BILLING CODE 4810-40-M

Sunshine Act Meetings

Federal Register
Vol. 52, No. 226
Tuesday, November 24, 1987

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

TIME AND DATE: 11:00 a.m., Monday, November 30, 1987.

PLACE: Marriner S. Eccles Federal Reserve Board Building, C Street entrance between 20th and 21st Street, NW., Washington, DC 20551.

STATUS: Closed.

MATTERS TO BE CONSIDERED:

1. Preliminary consideration of testimony on banking issues. (This item was originally announced for a closed meeting on November 12, 1987.)
2. Proposed purchase of computer equipment within the Federal Reserve System.
3. Proposed procurement of currency processing equipment with the Federal Reserve System.
4. Personnel actions (appointments, promotions, assignments, reassignments, and salary actions) involving individual Federal Reserve System employees.
5. Any items carried forward from a previously announced meeting.

CONTACT PERSON FOR MORE INFORMATION: Mr. Joseph R. Coyne, Assistant to the Board; (202) 452–3204. You may call (202) 452–3207, beginning at approximately 5 p.m. two business days before this meeting, for a recorded announcement of bank and bank holding company applications scheduled for the meeting.

Dated: November 20, 1987.

James McAfee,

Associate Secretary of the Board.

[FR Doc. 87–27148 Filed 11–20–87; 2:38 pm]

BILLING CODE 6210-01-M

COMMITTEE ON EMPLOYEE BENEFITS OF THE FEDERAL RESERVE SYSTEM

TIME AND DATE: 3:30 p.m., November 30, 1987.

PLACE: Marriner S. Eccles Federal Reserve Board Building, C Street entrance between 20th and 21st Streets NW., Washington, DC 20551.

STATUS: Closed.

MATTERS TO BE CONSIDERED:

1. The Committee's agenda will consist of matters relating to (a) The General administrative policies and procedures of the Retirement Plan, Thrift Plan, Long-Term Disability Income Plan, and Insurance Plan for Employees of the Federal Reserve System; (b) general supervision of the operations of the Plans; (c) the maintenance of proper accounts and accounting procedures in respect to the Plans; (d) the preparation and submission of an annual report on the operations of each of such Plans; (e) the maintenance and staffing of the Office of the Federal Reserve Employee Benefits System; and (f) the arrangement for such legal, actuarial, accounting, administrative, and other services as the Committee deems necessary to carry out the provisions of the Plans.

Specific items include: (1) Proposed early retirement program for employees of a Federal Reserve Bank; (2) supplemental pension for Federal Reserve Bank retirees; and (3) amendment to the Thrift Plan regarding contributions.

2. Any items carried forward from a previously announced meeting.

CONTACT PERSON FOR MORE INFORMATION: Mr. Joseph R. Coyne, Assistant to the Board; (202) 452–3204.

Dated: November 20, 1987.

William W. Wiles,

Secretary of the Board.

[FR Doc. 87–27144 Filed 11–20–87; 2:06 pm]

BILLING CODE 6210-01-M

NATIONAL TRANSPORTATION SAFETY BOARD

TIME AND DATE: 10:00 a.m., Monday, November 23, 1987.

PLACE: Board Room (Room 812A), Eighth Floor, 800 Independence Avenue, SW., Washington, DC 20594.

STATUS: Open.

MATTERS TO BE CONSIDERED:

1. Recommendation to WMATA/CSX re Common Corridor Operations Along the Red Line (B-Section).

FOR MORE INFORMATION CONTACT: Bea Hardesty, (202) 382–6525.

Bea Hardesty,

Federal Register Liaison Officer.

November 19, 1987.

[FR Doc. 87–27153 Filed 11–20–87; 3:36 pm]

BILLING CODE 7533-01-M

federal register

Tuesday
November 24, 1987

Part II

Environmental Protection Agency

State Implementation Plans; Approval of Post-1987 Ozone and Carbon Monoxide Plan Revisions for Areas Not Attaining the National Ambient Air Quality Standards; Notice

ENVIRONMENTAL PROTECTION AGENCY

[AD-FRL 3256-7]

State Implementation Plans; Approval of Post-1987 Ozone and Carbon Monoxide Plan Revisions for Areas Not Attaining the National Ambient Air Quality Standards; Notice

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed Policy.

SUMMARY: The EPA is developing a program to address the likelihood that many areas in the country will not attain the national ambient air quality standards (NAAQS) for ozone and carbon monoxide (CO) by December 31, 1987, the latest date for attainment expressly identified in the Clean Air Act (the Act), 42 U.S.C. 7401 et seq. This notice describes EPA's proposed views about how EPA should interpret the Act so as to bring those areas into attainment, the reasons for that interpretation, and the concrete steps EPA intends to take to implement that interpretation soon and in the long term. The EPA solicits comment on all aspects of this notice, and intends to issue its final policy on these issues after responding to public comment. That final policy will be an advance notice of how EPA intends, in subsequent rulemakings, to judge the adequacy of State efforts to plan for attainment of the ozone and CO standards.

DATE: The EPA will consider comments received by January 25, 1988.

ADDRESSES: A docket [Docket (A–87–18)] containing material relevant to this action is located at: Central Docket Section, South Conference Center, Room 4, U.S. EPA, 401 M Street SW., Washington, DC 20460.

Interested persons may inspect the docket between 8:00 a.m. and 4:00 p.m. on weekdays. The EPA may charge a reasonable fee for copying. The EPA will maintain a duplicate copy of the docket in each EPA Regional Office.

All written comments should be submitted (in duplicate if possible) to: Central Docket Section (A–87–18), Docket No. A–87–18, U.S. EPA, 401 M Street SW., Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT: Brock Nicholson, Office of Air Quality Planning and Standards (MD–15), Research Triangle Park, North Carolina 27711, (919) 541–5517 or (FTS) 629–5517.

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Summary of Proposed Policy

For the convenience of the reader, this notice first sets forth a summary of the background and the key features of the policy proposed today. More detailed discussions of the statutory and regulatory background, EPA's proposed interpretation of the Act's requirements for post-1987 correction of air quality plans, and issues raised by the proposed policy appear later in this notice.

Following those discussions, EPA sets forth a "Policy Statement" that is intended as a complete statement of the policy requirements. The reader will notice that this organization creates some redundancy. On balance, however, EPA believes that the publication of a proposed Policy Statement will give the reader the best indication of the actual policy that will apply upon final publication.

Summary of Background

Over the past year, EPA has been considering how it should deal under the Act with the likely persistence in many urban areas of violations of the NAAQS for ozone and CO beyond December 31, 1987, the latest date for attainment explicitly mentioned in the Act. Since 1970, these areas have gone through several rounds of planning for attainment of these standards, first under the 1970 Clean Air Act and then under the 1977 Amendments to the Act. Each round has spawned new State implementation plans (SIP's) that in turn have produced significant progress toward controlling the emissions of pollutants that cause violations of the standards. Despite this progress, however, it is apparent that the existing SIP's for many areas need to be tightened further, in some cases substantially, to produce attainment.

The EPA historically has interpreted the Act to set requirements for States to produce plans persuasively projecting attainment of the standards by the statutory dates—not a requirement that areas actually attain the standards by those dates. See, e.g., 40 CFR 52.24 (1984) and 48 FR 50686 (November 2, 1983) explaining and codifying this interpretation in the context of the failure of several areas to attain the standards by December 31, 1982, the applicable planning date for certain areas under section 172 of the Act, 42 U.S.C. 7502. The EPA intends to retain this interpretation of the Act for all areas that are still violating the ozone or CO standard after December 31, 1987. This means that EPA does not intend to impose any of the construction bans or funding restrictions provided by the Act in reaction to an area's failure to attain the standards by that or any other date. Rather, EPA intends to require a new round of planning extending beyond 1987 for areas whose existing plans will not bring about attainment in the near term and, as in the past, to reserve sanctions for cases in which States fail to submit adequate plans or to

implement their existing plans in accordance with required schedules. See 52 FR 26404 (July 14, 1987) ("General Preamble" explaining EPA's recent proposals to impose the Act's construction bans in areas that did not submit adequate plans in response to past planning requirements).

The Act does not provide explicit direction as to what these post-1987 plans must contain. In particular, the Act contains some ambiguity as to the attainment dates that apply once the 1987 date passes, which sanctions are available in different types of areas, and how much interim progress toward attainment the new plans must produce. The EPA believes, however, that the Act provides guidance on how EPA should resolve these ambiguities. For that reason, EPA intends to issue a detailed policy to guide State and local planners in a new round of planning and, shortly thereafter, to trigger that planning process.

The EPA has structured this proposed policy so that it is consistent with EPA's best view of what the current law requires in these circumstances. Some of the elements of the policy that appear required by the law, however, do not reflect what EPA would prefer as a matter of policy.

While EPA believes that it can effectively implement the proposed policy under the current statute, EPA believes that certain changes to the Act might be helpful. The EPA believes that a narrow revision of the current statute, when combined with the remainder of today's proposal, would provide a satisfactory blueprint for addressing persistent nonattainment of the ozone and CO standards after 1987. For example, EPA would prefer that the statute create new attainment dates that vary by area according to the difficulty of attaining, and that the construction moratorium provided in section 110(a)(2)(I) of the Act not be mandatory, as described below, in areas that cannot submit SIP's that demonstrate attainment of the standards in the near term after 1987.

In addition, it appears that the history of the air quality planning in an area may determine the availability of certain sanctions [such as the highway funding sanction in section 176(a)] in the area. The disparate applicability of sanctions from area to area could create the perception that EPA is applying the sanctions inequitably. Congress may want to examine whether to adjust the sanctions provisions to avoid any apparent (or substantive) inequity. Some of the other changes that would be desirable [e.g., changes to sections 110(c) and 176(b)] will become evident as the reader proceeds through today's policy proposal.

Summary of Policy—General Approach and Key Features

The EPA will trigger the new round of planning by issuing notices that the SIP's for the affected areas are "substantially inadequate" within the meaning of section 110(a)(2)(H) of the Act, 42 U.S.C. 7410(a)(2)(H). The EPA expects to issue such SIP calls in the spring of 1988.[1] SIP calls will be based on the most recently available air quality date (i.e., through 1987). To provide an indication of which areas might be included in the SIP calls, lists of areas that would be subject to SIP calls based on existing air quality data (through 1986) appear in Appendix A at the end of today's notice.

The SIP calls will apply to areas falling into various categories. The SIP's for some of the areas may once have received EPA's full approval under Part D of the Act. For certain other areas, the most recent SIP's never received EPA approval and do not contain a persuasive demonstration of attainment of the standards in the near term. In such cases, EPA's disapproval of such SIP's will reaffirm the SIP calls for those areas and, as discussed later in this notice, have other potential consequences.

The SIP's for some areas received EPA's approval on the condition that the State remedy certain plan deficiencies. Where the State has not corrected these problems, EPA may rescind its approval of the plan and substitute a disapproval. Such disapprovals would reaffirm the SIP call and, as discussed later in this notice, have other potential consequences.

Some areas have already received SIP calls from EPA and have submitted SIP revisions in response to the calls. Final disapproval of the pending submittal for such an area will trigger the new planning requirements.

In all cases a SIP call based on NAAQS violations issued prior to a final disapproval as discussed above will trigger the need for a SIP revision.

Finally, EPA intends to require new planning even in some areas that were not required to submit plans under the 1977 Amendments. These are areas that have recently detected violations of the standards or appear to be contributing to nonattainment problems in nearby areas.

[1] Those nonattaining areas whose pending SIP disapprovals are not yet final by the time EPA issues SIP calls will still receive a SIP call that triggers new plan requirements.

The EPA proposes to require that the affected areas develop and submit new plans that include a persuasive demonstration that they will attain the standards by a fixed date. For the reasons described in the "General Preamble" that EPA published on July 14, 1987 (52 FR 26404), EPA believes that a plan that commits to periodic SIP tightenings as measures become reasonably available, but that does not actually demonstrate attainment by any particular date, will not meet the Act's planning requirements. Stated simply, EPA believes that the Act requires States to develop in advance their plans for attainment. This does not allow States to wait and see what types of pollution control become reasonably available or until better air quality tools become available.

The EPA believes it must apply the relevant construction moratorium (or leave in place the currently applicable moratorium) in areas whose new plans (post-1987) do not contain a persuasive demonstration that their new pollution control strategies will produce attainment of the standards in the near term after 1987 (within 3 years and, for some areas, 5 years of EPA's approval of the area's post-1987 plan revision). The EPA will not, however, supplement the construction moratorium with the available funding restrictions in any area whose plan, though not showing attainment in the near term, does reflect reasonable efforts to submit an acceptable plan. To reflect such efforts, the plan would have to show, at a minimum, that the new control strategy would produce attainment by a date that, although perhaps later than the near-term period just described, is expeditious in light of the difficulty in meeting the area's pollution control requirements under the air quality standards. Moreover, all except the most marginal nonattainment areas will also have to show that their new plans will produce expeditious progress in the interim before attainment. This "reasonable rate of progress would be an average annual emissions reduction of at least 3 percent (beyond certain baseline measures) in the base year inventory for the area.

Beyond applying sanctions to address planning failures, EPA intends to review the extent to which States are carrying out their existing SIP's. Where a State is not carrying out its existing SIP, EPA may initiate rulemaking to impose sanctions such as a construction moratorium to achieve implementation.

The EPA intends to promulgate some national regulations that will assist the States in the new planning effort, and to

prescribe some minimum pollution control requirements that the new SIP's must contain. However, EPA will allow State and local planners sufficient flexibility to choose among control options. This is especially appropriate for planning to attain the ozone and CO standards, because State and local planners and officials are generally best suited to select and implement controls of emissions from in-use vehicles. See, e.g., H.R. Rep. No. 95–294, 95th Cong., 1st Sess., 288 (1977).

Beyond setting the framework for the creation of new control strategies, EPA intends to require that the new plans include provisions to maximize the effectiveness of the control programs established under previous EPA policies. In addition, EPA will establish rigorous new requirements for assuring actual achievement of the progress that these plans project for the future, and for making mid-course corrections to the new SIP's if they prove less effective than projected.

It is important to note that this proposed policy (and any policy that ensures ultimate attainment of the CO and ozone NAAQS as required by the Act) would entail substantial cost. As a rought estimate, based on potential variations in average control costs and extrapolation of growth in both stationary and mobile sources of emissions, EPA projects annual costs in 1992 would be 2.6–4.3 billion dollars. These would increase up to 6 to 10 billion dollars annually after 2002.

This is an estimate of direct control costs only; it does not include potentially substantial social costs associated with extensive carpooling, inconvenience associated with reformulated consumer products, job disruption associated with relocation of major volatile organic compounds sources such as refineries, etc.

While these direct control costs are high, the policy proposed in this notice tends to minimize aggregate control costs for two reasons: (1) It reserves to States decision-making on specific controls so that such decisions can reflect what is most efficient in a given locality; and (2) it recognizes that areas with differing air quality problems require different amounts of time to comply, thus giving areas with long-term problems an opportunity to develop over-all strategies that minimize social disruption and cost. Policies that lack these features would tend to increase costs beyond that noted above.

Detailed Statutory and Regulatory Background

Detailed descriptions of the Act and EPA's implementation of the Act appear in a series of **Federal Register** notices that EPA has published over the years—most recently, at 52 FR 26404 (July 14, 1987). See also, 44 FR 20372 (April 4, 1979); 46 FR 7182 (January 22, 1981); and 48 FR 50686 (November 2, 1983). Those notices provide important background for today's policy proposal. A synthesis of those descriptions is set forth below.

The Clean Air Act

In 1970, Congress amended the Act to establish a joint State and Federal program to control air pollution. As required by the new sections 109 and 110, EPA established NAAQS for such pollutants as photochemical oxidants (currently measured as ozone and therefore referred to hereinafter as ozone) and CO, and called for States to submit SIP's providing for attainment of those standards within certain prescribed periods. Section 110(a)(2) specifies the requirements for these SIP's. It directs EPA to approve a SIP within 4 months after its submission if, among other things, it "provides for the attainment" of the standard "* * * as expeditiously as practicable but [subject to subsection (e)] in no case later than 3 years from the date of approval of such plan * * *." Each SIP must also provide, according to section 110(a)(2)(H), that the State revise its SIP whenever the Administrator finds that the existing SIP is "substantially inadequate" to achieve the NAAQS or otherwise meet the requirements of the Act.

Section 110(e) permits an extension of the 3-year attainment period for an additional 2 years if the technology to attain within 3 years is not available and the State has applied "reasonably available alternative means" of attaining the standard in the interim. Section 110(c) directs EPA, in the event it disapproves a submission or a State fails to submit a plan, to promulgate its own measures to fill the gap. Finally, under section 110(a)(3), a State may revise its plan at any time, but EPA may approve the change only if the SIP will continue to conform to the attainment and maintenance requirements of the Act.

In many areas of the country, the original SIP's that EPA approved or promulgated in the early 1970's failed to bring about attainment of the ozone and CO standards within the statutory periods. When Congress amended the Act in 1977, it created a new Part D, a planning process to revise the SIP's for areas that were exceeding the standards. Section 107(d) required EPA, by roughly March 1978, to identify those areas that in August 1977 were still experiencing NAAQS violations. The States were required by January 1, 1979, to adopt and submit such revisions to the SIP's for those areas that would meet the requirements of Part D and the new section 110(a)(2)(I).

Under Part D, each revision was to provide for attainment of the relevant primary NAAQS as expeditiously as practicable, but in general no later than December 31, 1982. A revision could provide for attainment of the primary standards for ozone and CO as late as December 31, 1987, if the State demonstrated that attainment by the 1982 deadline was not possible despite the implementation of all reasonably available control measures (RACM).

In any event, each revision due in 1979 was to provide for the implementation of RACM and for "reasonable further progress" (RFP)—defined as annual incremental reductions in emissions sufficient in EPA's judgment to provide for attainment by the applicable deadline, including such reductions as may be obtained through the adoption of "reasonably available control technology." Each revision also was to have, among other things, a permit program for the preconstruction review of major new sources of the relevant pollutants. As outlined by section 173 of the Act, this program would allow construction, even before attainment occurs, upon determinations that (1) the source would have state-of-the-art controls, (2) its emissions would be offset by greater than one-for-one reductions elsewhere or would be accounted for in an approved demonstration of attainment by the applicable date for the area in which the source was locating, (3) the applicant's other sources in the State are in compliance with the SIP, and (4) the State is carrying out the SIP. In the case of the areas with 1987 deadlines (i.e., "extension" areas), each revision due in 1979 had to identify any measures beyond RACM that would be necessary to assure timely attainment and had to contain commitments to adopt a motor vehicle inspection and maintenance program. In addition, each State with an extension area was to submit a supplemental revision before July 1, 1982, containing those additional measures necessary to assure attainment by the end of 1987.

As part of the 1977 Amendments, section 110(a)(2)(I) required each SIP to contain a construction ban that would operate against major new sources and major modifications of existing sources of the relevant pollutants in each nonattainment area after June 30, 1979, "* * * unless, as of the time of

application for a permit for such construction * * *, such plan meets the requirements of Part D * * *." As further incentive for timely submission of Part D SIP revisions, Congress added sections 176(a) and 316(b). Section 176(a) bars the Department of Transportation from funding many highway projects, and EPA from making air program grants in an ozone or CO nonattainment area upon a determination by EPA that the State has failed to make reasonable efforts to submit approvable SIP revisions for the area in accordance with Part D. Section 316(b) authorizes EPA to withhold certain grants for sewage treatment construction where an area has failed, among other things, to submit an adequate Part D SIP for the area.

Congress also added two funding sanctions for failures to implement a SIP. First, it extended the discretionary withholding of sewage treatment grants under section 316 to such failures. Second, it provided in section 176(b) for a withholding of air grants for any area in which the State is not implementing the applicable SIP. Beyond those funding sanctions, the requirement in section 173(4) operates, in effect, as a ban on the construction of major new sources and major modifications of existing sources in the event that a State is not "carrying out" its SIP. This means that, even when the SIP for a designated nonattainment area has been approved and is adequate, the area may become subject to a construction ban if it fails to carry out the SIP. (See discussion on Plan Implementation under section 6.c. Promulgation of Federal Plans.)

History of Regulatory Development Under Part D

The EPA began its administration of Part D with the promulgation in 1978 of attainment status designations under section 107(d). See, e.g., 43 FR 8962 (March 3, 1978); 43 FR 40502 (September 12, 1978). Then, on April 4, 1979, EPA published a notice describing in detail the prerequisites to EPA approval of the SIP revisions that Part D required the States to submit in 1979 for areas that were designated nonattainment (44 FR 20372).

On July 2, 1979, EPA issued an interpretative rule establishing that the construction ban in section 110(a)(2)(I) would begin to operate immediately in any designated nonattainment area that was not yet covered by an approved Part D SIP (44 FR 38471 [now codified at 40 CFR 52.24(a) (1986)]). At the time, EPA had yet to approve a Part D SIP for any ozone or CO nonattainment area, so the ban came into effect in all of them. Gradually, the States submitted for most of these areas the first round of Part D SIP revisions that were due at the beginning of 1979, and EPA approved or conditionally approved these revisions. Thus, by the end of 1982, most ozone and CO nonattainment areas were free of the ban.

After December 31, 1982, however, EPA faced the dilemma of whether to reimpose the ban in those numerous nonextension areas where it appeared that violations of the ozone and CO NAAQS would persist despite the States' implementation of their approved 1979 plans. The EPA initially proposed to disapprove the SIP's for those areas and impose the ban, on the theory that a SIP that had failed to produce attainment by the end of 1982 could not be said to "provide for" attainment by then, as required by Part D. See 48 FR 4972 (February 3, 1983). In response to almost universal opposition from commenters, EPA reconsidered its position and, in late 1983, reversed itself. See 48 FR 50686 (November 2, 1983). The EPA took the position that Part D presents only obligations to plan and implement the plan, not to attain. The EPA concluded that Congress expected Part D SIP's to provide for attainment by the end of 1982 only "in a prospective or planning sense." Id. at 50690–91. The EPA put this conclusion into regulatory form by adding the following sentence to the 1979 interpretative rule embodying the ban [i.e., 40 CFR 52.24(a)]: "This section shall not apply to any nonattainment area once EPA has fully approved the State implementation plan for the area as meeting the requirements of Part D."

With respect to remedying the nonattainment problem, EPA stated:

> Where a fully approved Part D plan failed to bring about attainment by the end of 1982, EPA will treat the plan as "substantially inadequate" to assure attainment under Section 110(a)(2)(H) and call for a SIP revision. EPA will provide one year for the submittal of the new revision under Section 110(c)(1)(C). The revisions will have to provide for attainment as expeditiously as practicable * * *. [Id. at 50693 col. 1.]

The EPA warned that, if a State failed to respond adequately to a call for a SIP revision, it would impose a ban on construction for failure to implement the SIP. Id. at 50693 col. 2. This failure would be premised on the SIP provision created under section 110(a)(2)(H) requiring the State to revise its SIP upon a call from EPA. The new source review provisions of Part D, specifically section 173(4), bar the issuance of permits to major new sources of the relevant pollutant locating in the nonattainment area, if the State is failing to carry out the SIP. See 40 CFR 52.24(b) (1986). By requiring the new plans to show attainment "as expeditiously as practicable" rather than by a fixed date analogous to the Part D dates, and by restricting itself to using the section 173(4) sanctions rather than the full array of Part D sanctions to address State failures to respond to the SIP calls, EPA implicitly acknowledged that it viewed the Part D planning requirements as only one-time obligations, i.e., not renewable by the SIP calls.

The EPA further advised that any nonextension area still lacking a fully approved plan would continue to be potentially subject to the ban in section 110(a)(2)(I). For example, EPA stated that areas with conditionally approved Part D SIP's that had failed to meet important conditions were potentially subject to a rescission of the conditional approval and imposition of the section 110(a)(2)(I) construction ban. But EPA advised that, in view of the passage of the 1982 deadline, a corrective SIP meeting those conditions could still obtain full approval and avoid the ban after 1982 if the SIP provided for attainment as expeditiously as practicable.

The EPA subsequently issued calls for revisions of the ozone and CO SIP's for many nonextension areas with previously approved plans. As a result, EPA has received revisions from many States over the past few years. The EPA recently proposed to disapprove two of those revisions. See 52 FR 26421 (July 14, 1987) (Dallas, TX) and 52 FR 26435 (July 14, 1987) (Atlanta, GA). It has yet, however, to take final action approving or disapproving any of them.

In the meantime, on January 22, 1981, EPA issued a new policy describing the criteria it would use to judge the supplemental SIP revisions for extension areas that were due in mid-1982. The EPA received revisions from all extension areas and approved many of them. See, e.g., 48 FR 51472 (November 9, 1983) (New Jersey, ozone); 50 FR 25073 (June 17, 1985) (New York City, ozone and CO). The EPA has disapproved the SIP's for several extension areas and imposed the construction ban under section 110(a)(2)(I). See, e.g., 51 FR 33748–49 (September 23, 1986) (Phoenix and Tucson, CO); 50 FR 8616 (March 4, 1985) (Albuquerque, CO).

Beginning approximately in 1984, EPA began to explore how it might address the likelihood that many extension areas, as well as some non-extension areas that had already received SIP calls, would not attain the ozone and CO standards in the near term with their existing SIP's and pending SIP revisions.

In particular, EPA began to consider withholding both disapprovals of the pending plan revisions and the imposition of sanctions where, though the States had failed to demonstrate attainment of the standards by the end of 1987 (or even shortly thereafter), they had submitted commitments to adopt all control measures as they become reasonably available. The EPA solicited comment on whether such an approach would be consistent with the Act. See 51 FR 34428 (September 26, 1986) [soliciting comment on the "Reasonable Extra Efforts Program" ("REEP") for four areas in California].

After reviewing the language and legislative history of the relevant provisions of the Act,[2] EPA concluded that the REEP approach, as well as a similar approach called the "Sustained Progress Program" ("SPP"), would be inconsistent with the Act—for both extension areas that had not yet received approval of their Part D SIP's and areas that, though receiving such approvals, needed to revise their SIP's in response to notices of SIP deficiency under section 110(a)(2)(H). With regard to applying REEP and SPP to areas without approved Part D SIP's, EPA stated:

> On its face, Part D * * * contemplates an entirely different planning process [from REEP], under which such an areas [sic] must develop within a set period a full plan to produce attainment by a fixed near-term deadline.
>
> * * * * *
>
> The only argument supporting REEP in the face of this statutory language is the one sketched by EPA in its REEP proposal and by industry in its comments, namely, that some extension areas could produce attainment by the end of 1987 only by the application of measures that would tear the economic and social fabric of the areas and that the 95th Congress could not really have intended the areas to put such draconian measures into enforceable form and actually begin to implement them.
>
> * * * * *
>
> The argument, however, misses the point . . . In fact, the legislative history shows that the Congress set up the Part D system in order to force communities and industry to do their utmost to bring about attainment as rapidly as possible and expected that a future Congress would change the course it had set, if necessary, to avoid any unacceptable consequences.
>
> * * * * *
>
> In sum, REEP and SPP would frustrate the purposes of Part D by abandoning upfront, complete planning for attainment by a near-term fixed deadline in favor of iterative planning for progress alone."

[52 FR 26404, 26408 col. 3 (July 14, 1987)].

Based on this conclusion, EPA proposed to disapprove several pending ozone and CO SIP's for extension areas that did not contain persuasive demonstrations of attainment within such a short-term period, and to impose the construction moratorium in those areas. See, e.g., 52 FR 26431 (July 14, 1987) (California ozone and CO SIP's for the South Coast and Fresno; California ozone SIP's for Ventura and Sacramento).

With regard to areas that needed to revise their approved Part D SIP's in response to SIP calls, EPA tentatively concluded that, although the requirements for plan revisions in response to SIP calls are somewhat ambiguous, those provisions, like Part D, require the revised SIP's to demonstrate attainment by a fixed, near-term date after the SIP calls. The EPA stated:

> Section 110(a)(3)(A) provides that "[t]he Administrator shall approve any revision of an implementation plan applicable to an air quality control region if he determines that it meets the requirements of [section 110(a)(2)] * * *."
>
> * * * * *
>
> The natural reading of [section 110(a)(2)(A)] is that EPA must disapprove a SIP revision submitted by a State in response to a call by EPA under section 110(a)(2)(H) if the revision does not provide for attainment within 3 (in some cases 5) years from the time EPA completes rulemaking on the revision. Under this reading, EPA would have to disapprove any iterative planning approach . . . .
>
> This natural reading is clouded, however, by the fact that section 110(a)(2) seems to focus entirely on original SIP's, as opposed to revisions to pre-existing SIP's. Hence, one might argue, Congress did not necessarily intend submissions in response to a section 110(a)(2)(H) determination to be measured against the yardstick of whether they provide for attainment within such a short period. For cases where only draconian measures could produce attainment that quickly, arguably Congress would have given a stronger signal had it really intended such measures to become operational through State adoption and EPA approval.
>
> The EPA, however, is reluctant to attempt to transform the gap in precise interconnection between section 110(a)(3) and section 110(a)(2) into an expression of authority to embrace SPP. There is no such authority on the face of the statute, and the legislative history evidences Congress's consistent intent to require a SIP planning process that focuses on near-term attainment. [Footnote omitted.] Furthermore, the iterative planning under that program would require EPA ultimately to make choices between health and economic values that are essentially legislative in character and magnitude. It is not properly EPA's role as an administrative agency to take on the task of making such choices without a considerably stronger indication of Congressional delegation than now exists. Therefore, although as a matter of policy it may make little sense to impose sanctions in areas where near-term attainment is a practical impossibility, EPA has concluded tentatively that it lacks legal authority to implement SPP as originally envisioned in areas with fully approved Part D SIP's.

[52 FR 26404, 26409 (July 14, 1987)].

Based on this conclusion, EPA proposed to disapprove the pending SIP revisions for two areas, each of which had failed to respond to post-Part D SIP calls with demonstrations that they would attain the ozone standard by a fixed, near-term date [52 FR 26421 (July 14, 1987) (Dallas); 52 FR 26435 (July 14, 1987) (Atlanta)].

Discussion of Legal and Policy Issues

In the July 14 General Preamble, EPA listed several issues that the Agency must resolve before it can instruct States on how to correct their remaining ozone and CO nonattainment problems after December 31, 1987. Specifically, EPA mentioned:

- —What is the period after 1987 within which a SIP revision must assure attainment in order to warrant full approval under Part D or section 110(a)(3) [3 years? 5 years? 7 years?];
- —When sanctions, such as the construction ban in section 110(a)(2)(1) and highway funding restrictions, would lift once EPA has imposed them;
- —What "reasonable efforts" means for purposes of section 176(a) (e.g., whether adherence to REEP constitutes "reasonable efforts");
- —When section 316 sanctions would be appropriate;
- —How much time EPA should give States to respond to a SIP call;
- —When a State is not carrying out or implementing its SIP for purposes of imposing the sanctions in sections 173(4) and 176(b);
- —Whether and in what circumstances EPA may impose the ban in section 173(4) without simultaneously triggering the funding restrictions under section 176(b);
- —When EPA must act under section 110(c) to create a Federal implementation plan; what the content of such a plan must be;
- —How States should deal with interstate transport;
- —What degree of control of sources of nitrogen oxides is appropriate for purposes of attaining the ozone standard;
- —What constitutes RACM in the post-1987 era;
- —How States should treat rural nonattainment areas;
- —How much credit States may take in their attainment demonstrations for proposed and promulgated national control measures;
- —What dispersion models are appropriate for which nonattainment situations;

[2] This analysis appears in a memorandum of EPA's General Counsel, dated November 25, 1986. The evaluation in this memorandum is reflected in the General Preamble discussed in the text below.

—What the appropriate geographic scope of the planning area is for addressing ozone and precursor transport;
—What that scope is for addressing CO violations;
—What programs a SIP must contain for tracking implementation and RFP.

This section of today's notice discusses these issues for the purpose of generating public comment on how EPA should structure its final policy on correcting post-1987 nonattainment problems.

Discussion of Legal Issues Related to Post-1987 SIP Correction

I. Planning

A. *The applicable set of planning requirements.* The requirements of the Act that govern post-1987 air quality planning activities depend largely on the status of the planning efforts of the geographic areas in question. The various categories of areas are described below.

For the reasons described in EPA's November 1983 notice, EPA's full approval of a Part D SIP for a nonattainment area—whether it is an extension area or a nonextension area—amounts to a finding that the State has fulfilled and discharged for all time its Part D planning obligations. As indicated in that policy and the General Preamble published on July 14, 1987, any corrective SIP submitted for such an area in response to a SIP call under section 110(a)(2)(H) must meet the requirement of section 110(a)(3)(A), which governs SIP revisions other than Part D plans. That subsection in turn provides that "* * * [t]he Administrator shall approve any revision of an implementation plan applicable to an air quality control region if he determines that it meets the requirements of [section 110(a)(2)] * * *." Thus, the list of prerequisites to EPA SIP approval appearing in section 110(a)(2)(A)–(K) will apply to the post-1987 SIP revisions for areas with fully approved Part D SIP's.[3]

The new SIP revisions for areas whose Part D SIP's have never received EPA's approval remain subject to the Part D requirements. This group potentially includes areas whose Part D SIP's received approval on the condition that the areas cure certain deficiencies in the plans. Some of those conditions still have not been met and, in such cases, EPA may substitute a disapproval for its previous conditional approval and thereby keep the area subject to the Part D planning process.

Finally, some areas were never designated nonattainment under section 107 and therefore were never subject to Part D. If EPA believes that the existing SIP for such an area has not protected the area from air quality violations either in the area or nearby, it will issue a SIP call for the area. Under the reasoning of *Bethlehem Steel Corp.* v. *EPA*, 723 F.2d 1304 (7th Cir. 1983), however, EPA believes that it may not have the authority to redesignate an area to nonattainment (and thereby subject the area to Part D) without first receiving a request to do so from the affected State.[4] Thus, absent such a request, these areas can never become subject to Part D, and their corrective SIP revisions would instead be subject to the requirements of section 110(a)(2).

To summarize, there are several categories of areas, each having achieved a different status under the Act's planning requirements. The corrective SIP's for areas that have fully satisfied Part D or were never subject to Part D will be subject to the section 110(a)(2) planning requirements; the revisions for other areas will remain subject to or potentially subject to Part D.

Although on its face Part D differs substantially from section 110, the most important distinctions relate to issues involving sanctions and attainment dates. Some of the Part D provisions that are not also contained in section 110(a)(2) merely reflect Congress' view in 1977 of the specific requirements that States should add to previously deficient SIP's to ensure timely attainment. Many of these requirements (e.g., the requirement in section 172(b)(2) for all reasonably available control measures) arguably reflect Congress' view that SIP's cannot truly "insure attainment and maintenance," as that phrase is used in section 110(a)(2)(B), without meeting these additional requirements. For this reason, in certain respects, the policy proposed today draws upon Part D provisions as presumptive reflections of what Congress intended to require even of areas whose new planning is subject literally only to section 110. By minimizing differences in the planning requirements in different areas, this limited use of Part D provisions will serve EPA's general goal of making today's policy administrable with a minimum of confusion.

B. *Sanctions and the requirement to demonstrate attainment.* For the reasons described in the July 14, 1987, General Preamble, EPA believes that the Act permits EPA to grant full approval to a plan—whether it is subject to Part D or section 110—only if it includes a persuasive demonstration that the affected area will attain the relevant standard by a fixed date in the near term. The EPA also noted that the consequence of a State's failure to submit such a plan for a nonattainment area would be the application of the relevant construction moratorium in the area—under section 110(a)(2)(I) for areas subject to Part D, and under section 173(4) for areas subject to section 110(a)(2).[5] The EPA reiterates today its intention to apply this interpretation of the Act.[6]

The EPA made clear, however, that it did not intend to begin proceedings to impose the funding restrictions under section 176(a) in any area "* * * for so long as the State is making reasonable efforts to adopt and submit a plan that meets the requirements of Part D." (See 52 FR 26409 col. 3.) The EPA is still inclined to reserve this sanction for cases in which the State is not making reasonable efforts to submit an adequate plan.

[3] As the General Preamble noted, however, 52 FR 26409 col. 2, the fact that section 110(a)(2) seems to focus entirely on original SIP's, as opposed to revisions to preexisting SIP's, does cloud the interconnection between sections 110(a)(3) and 110(a)(2). The EPA solicited comment on that point in the General Preamble. While today's notice reiterates EPA's inclination to interpret the section 110(a)(2) requirements to apply to such "post-Part D" SIP revisions, EPA continues to solicit comment on the issue.

Assuming that section 110(a)(2) does apply to such revisions, it is clear that section 110(a)(2)(I)'s requirement that the SIP contain a construction ban to apply in an area lacking a Part D SIP would already have been satisfied in an area whose Part D SIP has received full EPA approval.

[4] The EPA solicits comment on whether it should follow the reasoning of the *Bethlehem* court in making redesignation decisions in States not under the jurisdiction of the Seventh Circuit. Today's policy proposal assumes a uniform application of the Seventh Circuit's conclusions throughout the country.

[5] Both of these bans by their terms apply only to designated nonattainment areas. This means that EPA will not be able to apply the ban to address inadequate responses to SIP calls in other areas—e.g., areas that, although not designated nonattainment, received SIP calls because they contribute significantly to their own or a nearby nonattainment problem. The EPA does intend, however, to apply the ban in a designated nonattainment area if the State's corrective plan does not adequately account for the contributing emissions from a nearby area within the same State, regardless of whether the contributing area is designated nonattainment. The requirements for accounting for such contributing emissions are discussed later in this notice.

[6] As noted above, EPA has already proposed to disapprove the pending SIP submittals for several areas because those submittals did not persuasively demonstrate short-term attainment and, consequently, to impose the relevant construction ban. Should EPA receive a new submittal for any of these areas before it would otherwise take final action on these proposals, it will review the submittal and weigh whether (and, if so, how) the submittal should affect EPA's final action on the pending proposal.

The General Preamble left open the questions of how to define the short-term attainment period needed to avoid a disapproval and imposition of the construction ban, as well as how, absent a demonstration of short-term attainment, an area could demonstrate that it is making reasonable efforts to submit an adequate plan and thereby avoid the section 176(a) funding restrictions. These issues and other issues related to sanctions are discussed below.

1. *Demonstration of Short-Term Attainment Necessary to Avoid the Construction Ban*—a. *Areas Subject to Section 110.* As explained above, the language of section 110(a)(3) appears to require that revisions in response to SIP calls meet the requirements of section 110(a)(2), though EPA has admitted that this natural reading is clouded by the latter paragraph's focus on original SIP's due in response to new or revised NAAQS. Section 110(a)(2)(A) sets forth the requirement for demonstrating attainment of the standards:

> The Administrator shall approve or disapprove such plan or portion thereof, if he determines * * * that —
>
> (A) except as may be provided in subparagraph (I), (i) in the case of a plan implementing a national ambient air quality standard, it provides for the attainment of such primary standard as expeditiously as practicable but (subject to subsection (e) of this section) in no case later than three years from the date of approval of such plan * * *.

Thus, the Act sets an attainment date, for the purpose of developing corrective plans, that is at most 3 years beyond the total time needed for the States to submit the corrections and for EPA actually to grant them final approval. The only exception is contained in section 110(e), which allows the Administrator to:

> extend the 3-year period referred to in subsection (a)(2)(A)(i) for not more than 2 years * * * if * * * the Administrator determines that—
>
> (A) one or more emission sources (or classes of moving sources) are unable to comply with the requirements of such plan which implement such primary standard because the necessary technology or other alternatives are not available or will not be available soon enough to permit compliance within such 3-year period, and
>
> (B) the State has considered and applied as a part of its plan reasonably available alternative means of attaining such primary standard and has justifiably concluded that attainment of such primary standard within the three years cannot be achieved.

The provision goes on to state:

> (2) The Administrator may grant an extension under paragraph (1) only if he determines that the State plan provides for—
>
> (A) application of the requirements of the plan which implement such primary standard to all emission sources in such region other than the sources (or classes) described in paragraph (1)(A) within the three-year period, and
>
> (B) such interim measures of control of the sources (or classes) described in paragraph (1)(A) as the Administrator determines to be reasonable under the circumstances.

The EPA intends to interpret this provision to allow a 2-year extension of the attainment date—beyond the period for SIP submittal, EPA approval of the SIP, and the 3-year period in section 110(a)(2)(A)—for any area that can show that attainment before the end of that period would require on stationary or mobile sources the use of technology or alternative means that are not reasonably available within that period. Beyond that, EPA intends to require such areas to show that they have included, in their corrective plans, provisions that will achieve the emission reductions achievable by applying "reasonably available alternative means" (RAAM) to such sources. (These interpretations and the reasoning supporting them are discussed in section IV.8., "Requirements of Expeditious Attainment Dates and Reasonable Progress.") The result will be that some areas that cannot show attainment within the 3-year period with RAAM, but can show attainment within the extended period with RAAM and other measures, would receive approval of their SIP's and avoid the construction moratorium.

The EPA believes that using the 3- and 5-year periods in section 110 would fulfill Congress' intent even if the language of section 110(a)(2) did not govern revisions submitted in response to SIP calls. If that language does not apply, then the Act contains a gap that EPA may fill in a manner consistent with Congress' likely intent. See generally, *Chevron U.S.A.* v. *Natural Resources Defense Council*, 467 U.S. 837 (1984). Using the 3- and 5-year periods would be consistent not only with the periods chosen for the initial SIP's but also with the period Congress provided for submittal of the Part D SIP's required of nonextension areas. Section 172(a)(1) required those SIP's to provide for attainment by the end of 1982, 4 years from the date those submittals were due (January 1, 1979) [see section 129(c)].

To be sure, Congress provided a much longer attainment period for extension areas (from January 1, 1979 to December 31, 1987, approximately 9 years from the date the initial Part D SIP's were due). But it set up two planning periods for these areas—one to apply all "reasonably available" measures and a second to supplement those measures. Since most reasonably available measures should already have been applied in designated nonattainment areas by now, EPA regards post-1987 planning for these areas as comparable to the planning during the second Part D period. That period spanned from the July 1982 SIP submittal date [see section 129(c)] to the end of 1987, and is therefore roughly consistent with the 3- and 5-year periods EPA is contemplating for post-1987 SIP's.

b. *Areas Still Subject to Part D.* The EPA believes that the corrective plans for areas that have never fulfilled Part D must demonstrate attainment within periods similar to the section 110 periods to avoid the section 110(a)(2)(I) construction moratorium.

On its face, Part D calls for plans that provide for attainment by December 31, 1987. Since plans developed after 1987 cannot conceivably provide for attainment by the end of 1987, under the strictest reading of Part D these areas could never develop plans that meet Part D's requirements. If EPA were to adopt that reading, these areas would have to suffer under the section 110(a)(2)(I) construction ban for as long as they remain subject to Part D, that is, until they are redesignated to attainment.

The EPA does not believe that such an approach would be consistent with Congress' intent in adopting Part D and its sanctions. Construing the 1987 date as applying even after 1987 and, hence, imposing the ban to address the inability of Part D areas to plan after 1987 for attainment by that date, would amount to punishing these areas for failing to attain. For the reasons explained in EPA's November 1983 Part D policy, however, EPA regards Part D as a set of planning requirements, not requirements actually to come into attainment. Moreover, EPA believes that Congress created the Part D sanctions as means to produce better planning, not as a punishment for failure actually to attain. Since it will be physically impossible after 1987 for areas to plan to attain by the end of 1987, EPA intends to interpret the requirement to plan for attainment by that date as a legal impossibility. The EPA intends to select, in its place, a subsequent date consistent with what Congress would have intended had it known that EPA would be disapproving Part D submittals and thereby triggering new Part D planning for some areas so close to the end of 1987.

Although it is not clear what subsequent date Congress would have intended in these circumstances, the

history of the Act's planning requirements suggests that Congress would have provided these areas an additional period analogous to the 3- and 5-year periods in section 110. When Congress in 1977 directed EPA to initiate a new round of planning for areas that had failed earlier to attain under the section 110 requirements, it created new planning periods comparable to the section 110 periods rather than shortening those periods and thereby demanding plans for immediate attainment. (See discussion in previous subsection.) This indicates that Congress viewed periods comparable to the section 110 periods as the appropriate lengths of time for States to apply the types of controls that would produce attainment. For this reason, and because it would be administratively simpler to apply to Part D areas the same attainment periods as those applicable to section 110 areas, EPA intends to apply the 3- and 5-year periods in section 110 to areas still subject to the Part D planning requirements.

2. *Planning Necessary to Avoid Sanctions Other Than the Construction Ban.* As described earlier, the Act contains sanctions beyond the construction bans contained in sections 110(a)(2)(I) and 173(4). For the reasons discussed below, EPA regards each of these additional sanctions as available, for at least some areas, when EPA, at its discretion, makes certain determinations relating to planning and plan implementation. The remainder of this subsection describes these sanctions provisions and how EPA intends to exercise its discretion under them in reviewing planning performed after 1987. The EPA solicits comments on the application of these sanctions as discussed below.

a. *Funding Restrictions Under Section 176(a).* Section 176(a) states that EPA shall not approve or award grants for State air pollution control programs and the Department of Transportation (DOT) shall not approve any highway projects or award any highway construction grants under Title 23 of the U.S. Code (with certain exceptions) in any area where the primary standard has not been attained, where "transportation control measures" are necessary to attain the standard, and:

(3) where the Administrator finds after July 1, 1979, that the Governor has not submitted an implementation plan which considers each of the elements required by section 172 or that reasonable efforts toward submitting such an implementation plan are not being made (or, after July 1, 1982, in the case of an implementation plan revision required under section 172 to be submitted before July 1, 1982).

The EPA and the DOT published their joint policy on how to implement section 176(a) on April 10, 1980 (45 FR 24692). These sanctions have applied typically, if not exclusively, in areas that are violating the standards for ozone or carbon monoxide, because transportation control measures are needed to attain each of those standards in most areas that are nonattainment for those pollutants. Under the 1980 policy, EPA and DOT have imposed the sanctions only upon EPA's finding that the State has failed both to submit an adequate Part D plan for either of those pollutants *and* to make reasonable efforts to submit such a plan. Id.[7]

The reach of section 176(a) is much more limited now than when States were first submitting their Part D SIP's for ozone and CO. The EPA indicated in the November 2, 1983, policy that it viewed Part D as a one-time set of planning obligations that are completely discharged upon EPA's full approval of a plan meeting those requirements. Under that reasoning, any area whose Part D SIP has received EPA's full approval has met for all time "each of the elements required by section 172" and hence can never subsequently be found subject to the section 176(a) restrictions.[8]

The EPA is considering whether to retain this interpretation of section 176(a) beyond 1987. Retention would mean that only areas whose Part D plans have never received EPA's full approval would be potentially subject to the funding restrictions in that provision. This would include, as discussed above, both areas whose Part D SIP's are disapproved and areas that EPA finds have failed to meet important conditions placed on the Agency's earlier Part D SIP approvals. The EPA seeks comments on the legal and policy issues associated with this subject including the extent to which EPA is constrained from revising its interpretation.

Under the 1980 policy, EPA reaches its judgments case by case as to whether areas are making "reasonable efforts" to submit an approvable Part D plan. The EPA's interpretation of that phrase is necessarily guided by Congress' intent when it enacted the "reasonable efforts" test. The legislative history of that language reveals that Congress did not intend EPA to apply the section 176(a) sanctions to an area that had failed to submit an approvable Part D plan if the relevant State were diligently seeking a solution to the non-attainment problem, even if the solution were not available for years after the required attainment date. The first version of the provision appeared as section 110(h)(8)(A) of original Senate bill S. 252 to amend the Clean Air Act in 1977. See S. Rep. No. 95–127, 95th Cong., 1st Sess., 9 (1977). The original language would have established a duty to impose the funding restrictions upon the sole finding that a State had failed to submit an approvable plan for the relevant pollutant. The Senate added the "reasonable efforts" test to S. 252 in an amendment introduced by Senator Gravel. See 123 Cong. Rec. 18,475–77 (1977). The Senate adopted the amendment with little discussion, but the following colloquy indicates that failure to demonstrate attainment within the prescribed Part D periods would not alone amount to a failure to make reasonable efforts to meet Part D:

Mr. STEVENS. I am sure the Senator knows that Fairbanks has a problem and it is a naturally caused problem. I do not know of any solution to it yet.

Mr. GRAVEL. The fact that we are thinking of a solution and working on one will give it umbrage, under this amendment.

Mr. STEVENS. But if we cannot find a way by 1979 to solve it——

Mr. GRAVEL. If we cannot find a way by the year 2000, we still will not get hurt.

Mr. STEVENS. This means that the State of Alaska will not lose those funds if we cannot solve the icefog problem?

Mr. GRAVEL. If that happens, I will come to the floor of the Senate and slash my wrists.

* * * * *

Mr. MUSKIE. * * * Mr. President, as I understand the amendment, it is a reasonable modification of the committee amendment. It still retains some sanctions for those jurisdictions which make no effort, undertake no effort, to put together implementation plans, and so I am ready to accept it.

123 Cong. Rec. 18,476 (June 10, 1977). Congress then enacted section 176(a) with the Gravel amendment as part of the 1977 Clean Air Act Amendments.

The EPA intends to apply the reasoning underlying the above colloquy in deciding when to apply the section 176(a) restrictions to Part D areas after 1987. Specifically, EPA will not apply the restrictions just because an area does not demonstrate attainment of the standards within the short-term periods described above. Rather, EPA will reserve the sanctions to address a

[7] One U.S. District Court recently upheld this interpretation of section 176(a). *McCarthy* v. *Thomas*, D. Ariz., No. CIV 85–344–TUC–1WDB (August 11, 1987).

[8] Where EPA has approved an area's Part D SIP in reliance on the State's commitments to adopt additional measures, and the State has not met the commitments, EPA will look to see whether the failure is one of implementation or, instead, a basic flaw in the plan. In the latter case, EPA may rescind its approval of the area's SIP and, thereby, make the highway funding sanctions available once again.

State's failure to submit a plan that persuasively demonstrates (1) attainment by a date that, even if substantially later than the section 110 dates, is suitable for the area in light of its control needs, and (2) expeditious progress in the interim. A detailed discussion of what EPA would regard as "reasonable efforts" attainment dates and progress appears later in this notice.

b. *Sewage Treatment Grant Restrictions Under Section 316(b).* Section 316(b) states that EPA "may" restrict Federal grants for certain sewage treatment construction if it determines that:

> (2) the State does not have in effect, or is not carrying out, a State implementation plan approved by the Administrator which expressly quantifies and provides for the increase in emissions of each air pollutant (from stationary and mobile sources in any area to which either part C or part D of title I applies for such pollutant) which increase may reasonably be anticipated to result directly or indirectly from the new sewage treatment capacity which would be created by such construction.

The use of the word "may" in this provision makes this sanction available at EPA's discretion. Moreover, the provision's inclusion of areas "to which either part C or part D" applies indicates that EPA may apply the restriction even in areas that are not designated nonattainment for the pollutant involved.

Although technically EPA could apply this sanction in every area without a fully approved SIP [9] containing the required quantification, EPA believes that it would be more productive to use it only where the State is not making reasonable efforts, as in the case of the section 176(a) sanctions. Thus, although EPA may choose to apply the sections 176(a) and 316(b) sequentially rather than at the same time, depending on the appropriate strategy for inducing better State planning, EPA's decisions under both provisions will be based on the "reasonable efforts" factors described later in this notice.

c. *Air Grant Restrictions Under Section 176(b).* As described in the November 2, 1983, policy above and the General Preamble of July 14, 1987, EPA intends to continue to find that areas that do not respond adequately to SIP calls are failing to implement their SIP's and, therefore, become subject to the construction ban for nonimplementation under section 173(4).

On its face, section 176(b) requires EPA also to restrict Federal grants to a State's air pollution control program if the State is not implementing its plan. As indicated in the General Preamble, however, EPA intends to supplement the construction ban with the air grant cutoff only where doing so will not be counterproductive to good planning in the area. It makes little sense to withdraw financial support from the State workers on whom EPA depends for adequate planning to produce an approvable plan in response to a SIP call. The EPA believes that Congress would not have intended the cutoff to apply automatically where the State planners are making necessary progress in producing an adequate response to a SIP call.

3. *Prerequisites for Lifting the Construction Ban Once It Has Been Imposed.* Several areas are currently subject to the construction ban or will soon become subject to the ban because of their failure to demonstrate near-term attainment in the initial rounds of Part D planning [section 110(a)(2)(1) ban] or in response to SIP calls issued after passage of the 1982 attainment date [section 173(4) ban]. Other areas may become subject to the ban within the next few years if they do not respond adequately to the SIP calls EPA intends to issue after 1987.

For the reasons described above and in the November 2, 1983, Part D policy, EPA does not believe that the attainment date provisions in Part D require the imposition of the ban for the purpose of addressing an area's inability to attain by the applicable date. The EPA regards Part D as a set of planning requirements and the sanctions as inducements for the State to do better planning, not as punishments for failure actually to attain. For similar reasons, EPA would not impose the section 173(4) ban just because an area subject to section 110 planning requirements had failed to attain.

Consistent with this reasoning, EPA believes that a construction ban imposed for past planning failures should be lifted upon EPA's approval of a plan that meets the Act's post-1987 requirements. This means that an area that becomes subject to the ban because it cannot demonstrate attainment of the standards in the short term after 1987 could be relieved of the ban 3 (or 5) years before the attainment date in the area's long-term "reasonable efforts" demonstration. At that time, the long-term demonstration will effectively become the short-term demonstration that the Act requires for plan approval.

C. *Promulgations of Federal Plans*—1. *Comprehensive Plans.* Section 110(c)(1) of the Act states, in pertinent part:

> The Administrator shall, after consideration of any State hearing record, promptly prepare and publish proposed regulations setting forth an implementation plan, or portion thereof, for a State if—
>
> (A) the State fails to submit an implementation plan which meets the requirements of this section,
>
> (B) the plan, or any portion thereof, submitted for such State is determined by the Administrator not to be in accordance with the requirements of this section, or
>
> (C) the State fails, within 60 days after notification by the Administrator or such longer period as he may prescribe, to revise an implementation plan as required pursuant to a provision of its plan referred to in subsection (a)(2)(H).
>
> * * * * *
>
> The Administrator shall, within six months after the date required for submission of such plan (or revision thereof), promulgate any such regulations unless, prior to such promulgation, such State has adopted and submitted a plan (or revision) which the Administrator determines to be in accordance with the requirements of this section.

On its face, this provision appears to require EPA to promulgate comprehensive Federal plans as soon as a State's initial planning attempt is found to fall short. Section 307(d)(10) of the Act provides for one potential extension of this period. That provision states:

> Each statutory deadline for promulgation of rules to which this subsection applies which requires promulgation less than 6 months after date of proposal may be extended to not more than 6 months after date of proposal by the Administrator upon a determination that such extension is necessary to afford the public, and the Agency, adequate opportunity to carry out the purposes of this subsection.

The promulgation of Federal plans is listed as one of the actions subject to subsection (d) of section 307 [see section 307(d)(1)(B)]. If EPA were required to promulgate such a plan within 6 months of the triggering events set forth in section 110(c)(1) and the proposed promulgation were required to occur promptly "after" the event triggering a duty to promulgate, the opportunity for the extension provided by section 307(d)(10) would apply to such promulgations. More specifically, once EPA proposed a Federal plan "promptly" after the triggering event, EPA could extend the date for final promulgation to 6 months from that proposal, even if the resulting promulgation date extended beyond the section 110(c) period of 6 months from that event.

[9] This section discusses when EPA intends to apply the section 316(b) sanction to address planning failures. The question of when to use the provision to address nonimplementation of plans is discussed later in this notice.

Despite this surface reading of sections 110(c)(1) and 307(d)(10), EPA believes that it should interpret the promulgation time set forth in section 110(c) as not commencing unless and until the relevant sanctions have had a reasonable opportunity (but have failed) to induce the State to make reasonable efforts to develop its own corrective SIP even if that date is substantially later than the dates described above. The EPA believes that this interpretation best serves the purposes of the Act. As explained below, this view is grounded in a conflict between the promulgation provision and the sanctions provisions.

Congress enacted section 110(c) in 1970 as the sole means to ensure that its goal of clean air was not frustrated in the event a State defaulted on its planning obligations. The EPA used its promulgation authority in the mid-1970's to address the failure of several States to develop adequate transportation control plans (TCP's) needed to attain the CO and ozone NAAQS. The EPA promulgated its own TCP's, which required those States to adopt various transportation control measures (TCM's), and threatened to seek direct judicial enforcement of the plans. Several of the States challenged the Administrator's statutory and Constitutional authority to adopt such measures. Most of the courts agreed with the States and enjoined EPA's efforts to implement the Federal TCP's. See H.R. Rep. No. 95294, 95th Cong., 1st Sess., 286–88 (1977), reprinted in 4 Legislative History at 2753–55, for a discussion of these cases.

In reaction to this history of confrontation over EPA's use of section 110(c), Congress in 1977 adopted amendments to add new sanctions, including the construction ban, as a means to ensure submittal of State plans. The report on the House of Representatives bill to amend the Act (H.R. 6161) reviewed the history of EPA's inability to achieve the statutory objectives through the use of section 110(c) promulgations, and concluded that the wisest course was to adopt "* * * an approach that is intended to involve the least possible intrusion into State affairs consistent with the primary task of protecting public health." Id. at 4 Leg. Hist. 2755. In particular, the report stressed the need to induce States to adopt and implement their own TCP's voluntarily, noting that, "as a practical matter, State and local governments are in a better position than EPA to resolve those pollution problems, which involve millions of motor vehicles, through inspection and maintenance programs and similar measures." "H.R. Rep. No. 95–254, 95th Cong., lst Sess., 288 (1977)."

Similarly, the committee report on the Senate bill (S. 252) stated that the transportation control aspects of the bill had been designed to take into account that "* * * [t]he Federal Government does not have and will not have the resources to do an effective job of running the air pollution control programs of the State." S. Rep. No. 95–127, 95th Cong., lst Sess. 10 (1977), reprinted in 3 Legislative History at 1384–85. The Senate committee noted that "transportation planning," in particular, "is a local political process" and that any amendments to the Act should create incentives for local planning and remedy the "lack of local involvement in the process." Id. at 3 Leg. Hist. 1412.

Congress thus enacted the Part D sanctions in 1977 specifically to create new means of inducing this State and local planning. Congress failed, however, to amend section 110(c) when it added the Part D sanctions. That created an unresolved conflict between the literal language of section 110(c) and the congressional purpose sought to be implemented through the new sanction authority. For, if EPA were required to promulgate a Federal implementation plan within 6 months of disapproving a plan and imposing the construction ban, it would rarely be the case that the ban, or any other sanction, would be in place for sufficient time to achieve the congressional purpose of inducing the development of adequate State plans.

The EPA believes that it should reconcile the language and purposes by concluding that it must promulgate a Federal plan only after the sanctions have had a reasonable opportunity, but have failed, to induce the State to create or maintain reasonable efforts to create an adequate corrective SIP. In this way, the sanctions can still serve as an incentive for State planning rather than merely as a punishment, and Federal promulgation is reserved for the rare cases in which, despite the presence or threat of sanctions, the State still has not responded with adequate planning efforts.[10]

For those new areas for which Federal promulgation is required, EPA solicits comments on what attainment period would govern EPA's plans. The short-term period described earlier might apply to such Federal plans. Alternatively, perhaps EPA could promulgate a plan with a more suitable, longer-term attainment date so long as EPA included a construction ban of the scope of the section 110(a)(2)(I) ban in the plan. The EPA would like to receive the public's views on these and any other options that might be available.

2. *Promulgation of Stopgap Measures Pending the Creation of Adequate State Plans.* The EPA believes that it may have authority under section 110(c) to promulgate discrete control measures that would apply in areas that are not making reasonable efforts to submit adequate plans. These would be "stopgap" measures that would apply only during the period before which the State gets its planning back on an acceptable track. Such measures would produce the incidental benefit of applying additional pressure, beyond the sanctions, for the State to adopt adequate plans.

For example, under section 110(a)(5)(B), the Administrator has the authority to "promulgate, implement, and enforce regulations under section 110(c) respecting indirect source review programs which apply only to federally assisted highways, airports, and other major federally assisted indirect sources and federally owned or operated indirect sources." Thus, although the highway funding limitations required by section 176(a) may no longer be available after an area has received full EPA approval for its Part D plan, the indirect source review provided by these authorities offers an opportunity for EPA to review projects to ensure that their construction does not make air quality worse while the State develops an adequate plan.[11] Indeed, it is possible that EPA could, under such a program, declare in effect a moratorium on further federally assisted highway and airport construction on the ground that construction of such facilities could lead to further growth in vehicle miles traveled (VMT) that in turn would exacerbate air quality problems. Such a ban would be lifted when EPA either promulgated such a comprehensive plan or determined that the State was making reasonable efforts toward submitting an adequate plan.

The EPA can imagine other potential stopgap Federal measures suitable for such circumstances. For example, EPA might consider using its authority in section 110(a)(2)(D) to promulgate tightened requirements for new source

[10] One U.S. District Court, however, recently held that the duty to promulgate arises upon the disapproval of a State plan, regardless of the usefulness of sanctions in obtaining a better State plan. *McCarthy* v. *Thomas*, D. Ariz., No. CIV–85–344–TUC–1WDB (August 11, 1987).

[11] The EPA could not ban the construction of indirect sources of pollution that are not federally assisted because of the prohibition in section 110(a)(5)(A) of the Act.

review during this interim period—e.g., subjecting some non-major sources and modifications to a new source review permitting process similar to that prescribed by section 173 of the Act. The EPA's choice of measures would be guided partly by the likelihood that the measure would significantly benefit the environment without irrationally singling out a particular segment of the source population.

The EPA solicits comment on whether it should plan for such stopgap Federal promulgations.

II. Plan Implementation

The EPA has been reviewing the approved portions of the existing SIP's for ozone and CO to determine whether the States are carrying out their plans. The Administrator alerted the relevant State Governors of this effort by letter in April 1987. This implementation review and any consequent decisions to find nonimplementation will occur on a track parallel to the new round of planning initiated by this policy.

When EPA believes that a State is not carrying out its SIP, it may commence a rulemaking to make a formal finding of nonimplementation. A final finding that a State is not carrying out its plan will result automatically in the imposition of the construction moratorium set forth in section 173(4). That ban will remain in place until EPA finds through new rulemaking that the State is carrying out the relevant provisions of its plan.

Although section 176(b) on its face appears to call for an automatic cutoff of Federal grants for air program grants to a State that is not implementing its SIP, EPA intends not to use that sanction where it interferes with the goal of achieving plan implementation. Since cutting the funds of the State agencies implementing the State plan can be counterproductive, Congress probably did not intend such a result in these circumstances.

Finally, in some cases, EPA may choose to use its authority under section 113 to enforce unfulfilled commitments in a SIP.

Discussion of Policy Issues

Introduction

In determining an area's attainment status under the ozone standard, EPA uses air quality data for the most recent 3-year period for which data are available. This period reflects the statistical form of the ozone standard itself, which defines a violation as more than one expected exceedance of the standard on the average per year. See 40 CFR 50.9 (1986). As of today's proposal, the most recent ozone data available are from the 3-year period 1984–1986. By the date of the final notice, EPA expects to have 1985–1987 data available for use in deciding which areas are unlikely to attain by the end of 1987.

As a counting basis for the number of areas violating the ozone standard, EPA intends to group data from air quality monitors according to a consistent definition of regions. The EPA intends to use the larger of the Metropolitan Statistical Area (MSA) or the Consolidated Metropolitan Statistical Area (CMSA) (if one exists), as defined by the Office of Management and Budget, as the geographical area within which monitoring sites are grouped for analysis. Sites falling into separate non-MSA counties will be counted as representative of discrete areas.

Using these counting conventions, the 1984–1986 data indicate that 62 areas violated the ozone NAAQS during that period. These areas are listed in Table A–1 of Appendix A. Portions of these areas are designated nonattainment for ozone under section 107 of the Act. See 40 CFR Part 81. Almost half of the 62 areas appear to be only marginally nonattainment [i.e., have a current air quality "design value" [12] of 0.13–0.14 part per million (ppm)].

With a few exceptions, all of the major population centers in the country violate the ozone standard. Nonattainment is most severe in the Los Angeles area and some other California cities, the "Northeast Corridor" (roughly from metropolitan Washington, DC, to Portland, Maine), and the Houston area. The EPA does not expect the larger cities in these areas to be able to attain the ozone standard without massive reductions in emissions, particularly to offset growth in mobile and area sources of those emissions.

For determining whether an area is nonattainment for CO, EPA uses air quality data from the most recent 2-year period for which data are available. The standard defines a violation as more than one exceedance of the prescribed level in a year. [40 CFR 50.8 (1986)] (The EPA looks at data from the most recent 2-year period to ensure that attainment shown in one year is supported by data in the second year and is not merely an aberration.) Table A–2 in Appendix A shows that 65 areas violated the CO NAAQS during at least 1 year in the period 1985–1986. Although most of these areas are MSA's (some are non-MSA's), EPA generally intends to use the CMSA (where one exists) for SIP calls and planning purposes. By the date of EPA's final policy, EPA expects to have CO air quality data for 1986 and most of 1987 available for use in making decisions on SIP calls.

Nationwide, CO concentrations have generally been declining each year, largely as a result of the reductions being achieved by a combination of the Federal Motor Vehicle Control Program (FMVCP) and vehicle inspection and maintenance (I/M) programs. The EPA expects that the 1986–1987 data may indicate that fewer than 65 areas are violating the CO standard. Because of expected continuing reductions from these existing programs for the short term, it is possible that only a limited number of areas will need substantial additional reductions beyond those programs to attain the standard.

Because EPA uses multiyear periods of data (3 years for ozone, 2 years for CO) for SIP call and redesignation purposes, it is possible to project which areas will remain in nonattainment during the next data period by examining only the most recent of the data. For example, any area with a total of more than three exceedances of the ozone standard during 1985 and 1986 will be unable to avoid a showing of nonattainment during the 1985–87 period, since the ozone standard allows no more than three exceedances during 3 years. Similarly, any area that measures two or more exceedances of the CO standard in 1986 will be unable to show attainment during the 1986–87 period, since the CO standard allows no more than one exceedance in any year. By this method, EPA has identified in the tables 45 areas for ozone that will be nonattainment during the 1985–87 period and 52 areas for CO that will be nonattainment during the 1986–87 period.

In addition, Appendix A lists areas that may not attain during the 1985–87 period (1986–1987 for CO), but only if the 1987 data show nonattainment. These areas are comprised of two categories. The first are those exceeding the NAAQS during 1984–86 (1985–1986 for CO), but not identified on the lists as nonattainment during the 1985–87 period (1986–1987 for CO). Second are any areas which currently measure attainment, but have recently measured nonattainment (e.g., during the 1983–85

[12] The current air quality "design value" is the ozone level which represents the degree to which the 0.12 ppm NAAQS is exceeded. Where 3 years of complete data (i.e., at least 75 percent of the days during the ozone season having valid daily maxima) exist at a site, the site-specific design value is the fourth highest measured ozone level during the period. For 2 years of complete data, it is the third highest, and for 1 year of complete data, it is the second highest. Most cities had 3 years of complete data. In the case where there is more than one monitoring site, the design value for the MSA or CMSA is the highest of the site-specific design values.

period for ozone or 1984–1985 for CO). Any area showing renewed nonattainment in the 1985–87 period (1986–1987 for CO) is likely to come from one of these two groups. It is also possible that areas which have not recently (or never) measured nonattainment could begin to exceed the standard. However, due to the size of this potential group, EPA has not chosen to identify these areas on the tables.

In early 1988, EPA will compile for publication a new list of areas violating the ozone and CO standards, based on inclusion of the available 1987 air quality data. Shortly thereafter, and after EPA takes final action on this policy, EPA will issue a SIP call to each area on the new list. The SIP calls will trigger the applicable requirements for submitting an approvable SIP revision.

The EPA believes that data collected from the 1985–1987 ozone seasons will provide an adequate basis for determining whether an area's existing SIP is adequate to produce attainment by the end of 1987 or shortly thereafter. Plans for areas that projected attainment by the end of 1982, but that were experiencing violations during 1985–1987, are probably inadequate to assure attainment by any short-term date, and to assure maintenance thereafter.[13] Those plans have had 5 years beyond the projected attainment date to produce attainment, but still have failed to do so. For that reason, EPA believes that it can reasonably presume that those plans need strengthening to produce attainment in the near term. It is doubtful that those plans will produce sufficient emissions reductions shortly after the summer 1987 ozone season to shift those areas from nonattainment to attainment in the short term. While marginal nonattainment extension areas may be recording fewer ozone standard exceedances, EPA proposes to require these areas to prepare SIP revisions demonstrating attainment and maintenance of the standard. Based on EPA's experience with withholding SIP calls from marginal nonattainment areas subject to the 1982 attainment date, EPA has little confidence that the existing SIP's for areas that are marginally nonattainment today are adequate to assure attainment and maintenance in the short term. Should air quality data for the period 1986–1988 reveal, however, that an area has attained the air quality standard, the area may be eligible for a redesignation to attainment or some other form of relief from the obligation to submit a revised SIP according to the schedule described below, subject to the maintenance requirements of EPA's policies, including today's proposal. Moreover, if an area with a recently approved SIP is slated to achieve significant additional emissions reductions and its SIP projects attainment very soon after 1987, the area may be eligible for similar relief regarding submittal of a revised SIP. The EPA solicits comments on whether such relief is appropriate.

For CO, EPA intends to examine the available 1987 data before determining which areas should receive SIP calls in 1988; however, EPA does not expect that all data through the end of the year will have been reported by the date of the final policy notice. In some cases, EPA may rely on the 1985–86 data to determine an area's air quality status. Similar to the above treatment for ozone, should CO air quality data for the 1987–88 period reveal that an area has attained the standard, the area may be eligible for redesignation to attainment or some other form of relief from the obligation to submit a revised SIP, subject to the maintenance requirements of EPA's policies, including today's proposal.

I. Affected Areas

Each area that receives a SIP call will be subject to the requirements of EPA's final policy on post-1987 ozone and CO SIP revision requirements and, therefore, will be required to prepare and submit a revision to its SIP according to the schedule described in section II of this policy statement. In addition, EPA proposes to require that all areas requesting redesignations under section 107 in the future (i.e., after the date of today's notice) be subject to the maintenance and redesignation requirements of this policy (see Section V).

A. *Ozone Nonattainment Areas.* Where EPA bases the SIP call on violations of the ozone standard, the minimum affected area shall be the county in which the violation was measured. For an affected county located within an MSA or within a CMSA, EPA proposes to expand the SIP call to include all the counties within the MSA or CMSA.[14] By definition, a MSA contains a large urban center together with adjacent communities that have a high degree of social and economic integration with that population center. Counties included within an MSA have similar population densities and percentages of commuters to the urban core and, hence, large transportation systems and associated vehicular emissions. Due to these emissions and emissions from stationary sources located throughout the MSA/CMSA, EPA believes that attainment of the ozone standard may not be fully realized in these areas unless the State considers the emissions originating from all the counties within the MSA/CMSA [15] in its control strategy. As explained in section IV.E., control of MSA/CMSA emissions will also help reduce transport of ozone or ozone precursors downwind.

Subjecting the entire MSA/CMSA to the SIP call will not, however, necessarily require that the State control emissions from sources located in these outer counties in the same way as it would if those sources were located within the actual "central" county(ies).[16] See Section IV.A. for control requirements. Rather, the State may control these emissions to the extent necessary, provided that, in accounting for all emissions in this broader "demonstration area," the revised plan will produce progress and attainment according to the requirements of EPA's policy.

Where a previous SIP has used a planning area (or section 107 designated nonattainment area) larger than the MSA/CMSA, that larger area should continue to serve as the planning area. For areas previously found to be rural nonattainment areas under the old policy that are classified as urban (MSA) under today's proposal, the minimum planning area will be the MSA.

The EPA has historically established fewer requirements for rural nonattainment areas than for urbanized areas. The air quality problems of the rural areas often appear to be caused by the transport of ozone from upwind areas, rather than the generation of emissions locally. In previously issued

[13] Some nonextension areas received SIP calls in 1984 or 1985 and submitted SIP revisions recently. The EPA expects to act on these revisions over the next several months. The EPA's approval of such a revision will indicate that EPA may not need to issue a SIP call for such an area in early 1988. Disapproval, however, will act effectively as a reaffirmation of the SIP call for such an area.

[14] Color maps showing counties (or, in New England, parts of counties) contained in MSA's/CMSA's are available from the U.S. Government Printing Office. Specify "United States Maps, GE-50, No. 84, CMSA's, PMSA's, and MSA's, 1987."

[15] As discussed in the section III, EPA intends to require also that the demonstration reflect emissions from certain large stationary sources located outside, but within 25 miles of, the MSA/CMSA boundaries. This "extra-MSA/CMSA" area, however, will not technically be subject to the SIP call.

[16] As defined by the Bureau of the Census, a central county of an MSA has at least 50 percent of its population living in the urbanized area. For the New England States this shall mean the central core as also defined by the Bureau of the Census.

guidance (e.g., at 44 FR 20372, April 4, 1979), EPA stated that it would not require rural areas to submit a demonstration of attainment but, instead, would call for such areas only to implement a small set of stationary source control measures to create growth allowances that would obviate the need for case-by-case emissions offsets for new source construction.

The EPA is proposing today to change its policy definition of "rural areas" from an area with an urbanized population of less than 200,000 to any county outside an MSA. An MSA is generally an urbanized area with a population of at least 50,000. Some rural counties adjacent to MSA's have ambient monitors that have currently recorded violations of the ozone standard. The EPA proposes to include these rural adjacent counties with monitored violations as part of the MSA/CMSA planning area and to include them as a part of the MSA/CMSA SIP call area. The EPA believes that in some parts of the country these adjacent rural counties may be quite large and might include areas that are distant from the urban (MSA) area and are likely not contributing significantly to the nonattainment problem. The EPA is considering whether the more distant parts of these rural adjacent counties should be included in the planning area for the MSA and invites comment on this issue. In particular, EPA solicits comment on the need for excluding these more distant areas from the planning area and on the appropriate criteria (e.g., population or emission density, percent of county emissions covered, other jurisdictional boundaries) to use in making such an exlusion.

The EPA also proposes to distinguish between "self-generating isolated rural areas" (those areas that produce or significantly contribute to local ozone levels), and "nonself-generating isolated rural areas" (those areas that do not significantly contribute to local ozone levels). Each isolated rural area receiving a SIP call must submit a demonstration of which classification applies. Appendix B of this policy discusses the procedures for distinguishing between the two types of isolated rural areas. A demonstration that an area is nonself-generating must be accompanied by an identification [17] of the upwind area or areas within 10 hours travel time believed to be causing or contributing significantly to local nonattainment. The EPA will require these upwind areas to account for and control, in their demonstrations and control strategies, their contribution to ozone problems in the isolated rural areas. In the event an upwind area causing or contributing significantly to a rural area's nonattainment would not otherwise be subject to a SIP call, EPA will issue the upwind area such a call and require that the plan revision for that area demonstrate attainment in the rural area.

B. *Carbon Monoxide Nonattainment Areas.* Where a nonattainment area measuring a violation of the CO NAAQS is located within an MSA/ CMSA, the entire MSA/CMSA will be subject to a SIP call. If the area measuring CO violations is not located within an MSA/CMSA, then the county in which the violation occurs shall be issued the SIP call. States must account for emissions from sources throughout the SIP call area in developing the control strategy and attainment demonstration. The EPA will provide an exception to this requirement for an area affected only by localized points of traffic congestion, or "hotspot," CO problems.[18] For such an area, EPA will allow the planning area to be reduced to an area consistent with the scope of the nonattainment problem and its likely solution, in accordance with modeling requirements described in section III of this policy.

II. Planning Schedules

A. *Basic Schedule for Response to SIP Call.* Section 110(c)(1)(C) of the Act indicates that a State's response to a SIP call should be submitted within 60 days "or such longer period as [the Administrator] may prescribe." The EPA believes that this language authorizes the Administrator to prescribe any additional period for the State response that is reasonable in light of the circumstances.

The EPA believes that preparation of effective ozone and CO plans (including the air quality analysis, evaluation and selection of measures, and demonstration of attainment) will require a major effort from State and local agencies and officials as well as from EPA. Air agencies will need to identify and evaluate a number of control options against various criteria (e.g., emission reduction potential, cost, and administrative feasibility) and then rely on State and local decision-making processes to arrive at their final plans. Since many of the easier, more obvious control measures have been implemented in the past for both ozone and CO nonattainment areas, EPA believes that development of post-1987 plans may be especially difficult and time-consuming. Therefore, EPA is proposing to allow States a greater amount of time than generally allowed in the past in which to develop and submit their ozone and CO plans—specifically, 2 years from the SIP call. This planning period, however, will not allow States to modify existing planning or implementation schedules that apply to them now. These schedules will remain in effect until and unless the EPA-approved post-1987 SIP (developed in accordance with the provisions of this policy) modifies the schedules.

The EPA Regional Offices will work closely with State and affected local governments during the preparation of the ozone and CO SIP revisions to ensure that interim products and activities are completed on a schedule that will enable the submittal deadline to be met. For example, EPA will require States to submit a draft emissions inventory within 12 months of the SIP call to ensure that adequate progress is being made to develop the inventories consistent with national guidance. In addition, within 6 months after the SIP call, the State must review with EPA its schedules, commitments, and any progress in the development and adoption processes regarding SIP rule discrepancies and inconsistencies, previously required measures (e.g., rules for sources covered by CTG's), and anticipated measures for satisfying emission reduction requirements, particularly where those measures will require extra time for development and adoption.

Also, to ensure that the State and local governments give high priority to the development of the SIP, the Governor, after consultation with principal elected officials of each local government in the affected area, must submit within 3 months of the SIP call a written commitment to develop a SIP revision in accordance with this policy.

B. *Schedules For Special Situations.* The proposed policy will provide all States 2 years in which to develop and submit their ozone and CO plan revisions. Although EPA has identified two situations (described below) in which additional time may be needed to develop a refined SIP call response, EPA proposes to require areas in these situations still to submit an initial (2-year) revision that is as complete as feasible. In addition, a State must review with EPA within 1 year after the SIP call its expected need for additional time to complete development of the SIP in accordance with the two situations

[17] Isolated rural areas in the Regional Oxidant Model (ROM) domain (i.e., the Northeast) found to be nonself-generating must delay identification of upwind areas until the ROM results are available.

[18] For determination of hotspot problems, see section III.A.

described below. The State should clearly demonstrate why the complete submittal cannot be made within 2 years. For example, areas expecting to need long-term measures (see discussion below) would have to identify those measures within 1 year so that EPA could concur that additional time was justified for development and adoption of the measures.[19]

1. *Isolated Rural Areas.*[20] Some rural areas may not have or may not be able to produce within the 2-year planning period sufficient air quality monitoring data to determine whether their nonattainment problems are caused predominantly by emissions in upwind areas or their own emissions. This determination (i.e., whether the area is self-generating or not) will have a significant effect on the requirements for an area.

If the area does not have sufficient air quality monitoring data at the time of the SIP call, the State must develop such data as expeditiously as possible. The EPA realizes, however, that sufficient data may not be able to be produced in time to determine if the area is self-generating and to develop and adopt the appropriate measures (should additional measures be required) within the 2 years allowed for the SIP submittal.

Therefore, in these areas, EPA proposes to require that only the minimum control requirements described later in this notice be included in the SIP revision due 2 years from the SIP call. (See section IV.A. for the specific requirements for the different types of rural areas.) The initial SIP must also contain a schedule for completing the air quality monitoring, self-generation determination and modeling analysis, and a schedule for developing and adopting additional measures the modeling shows are needed.

The EPA expects the air quality monitoring and data analysis to be concluded expeditiously so that further planning can be conducted. The additional required planning after the monitoring and data analysis (including the development and adoption of measures) must be completed no later than 1 year from the date the initial SIP revision was due. For areas found to be nonself-generating, the second SIP submittal must summarize the air quality analysis and identify which upwind areas are responsible for the ozone violations in this area.[21] The plan revisions for the upwind area(s) must be revised to provide for expeditious attainment in the downwind area. The EPA assumes that the determination that an isolated rural area is nonself-generating will be made soon after the initial submittal due date so that the upwind area can be notified and can revise its SIP expeditiously. The EPA will work with upwind areas to identify an appropriate timeframe for revising their SIP's; however, the SIP revision for the upwind area to account for nonattainment in the downwind nonself-generating area will be due no later than 1 year from the 2-year submittal date.[22]

If the air quality monitoring shows that the area is self-generating, EPA expects the State to submit expeditiously a SIP satisfying the requirements for such areas. The EPA will work with the State to establish an expeditious time frame for submittal, extending no more than 1 year from the 2-year submittal date.

Some isolated rural areas may already have sufficient air quality monitoring data to determine whether they are self-generating. Knowing whether they are self-generating will determine the applicable requirements for these areas, as described later in this notice, within the initial 2-year planning period. These areas generally must submit their complete SIP revisions within 2 years of the SIP call.

2. *Areas Needing Long-term Measures.* Some areas requiring large emission reductions may need to adopt nontraditional measures in order to demonstrate attainment. Some of these measures may require complex planning or review and may be subject to adoption processes that cannot be completed within the 2 years between the SIP call and the generally applicable SIP revision due date. These measures would be those that require multiple approvals and/or planning and engineering studies before such approvals can be obtained. For example, most stationary source controls [such as control technique guideline (CTG) reasonably available control technology (RACT) regulations] would involve adoption primarily by the State and implementation over a relatively short time period. On the other hand, certain transportation control measures (such as a major mass transit system) would likely require preliminary design studies before being adopted by the affected government bodies, which could include a number of local, regional, State, and Federal agencies and officials. In addition, some measures may be controversial and unfamiliar in the affected area and may require extensive public awareness and involvement processes before adoption of the measure can occur. Examples of these measures include programs to alter vehicle use patterns (e.g., alternate drive-day programs) and measures to regulate residential emission sources (e.g., household products, lawn mowers). The EPA generally regards these types of measures as long-term measures more because of the difficulty and time requirements associated with planning and adopting the measures, not the time needed to implement them. The EPA recognizes, however, that some long-term measures likely will also require considerable time for implementation.

Even if an area needs long-term measures, the initial submittal (due in 2 years) for the area must include the demonstration of attainment, an identification of long-term measures (with expected emission reduction benefits along with a description and commitment to the process and schedule to complete all planning, review, and decision steps leading to adoption of those measures), and full adoption of all other measures. The EPA believes that up-front commitments to adopt these long-term measures are needed to ensure that the SIP submittal represents a complete control strategy for the area. The EPA recognizes that during the development and adoption process for these long-term and somewhat complex measures, strategy options may need to change. Therefore, EPA will allow the State to substitute measures for these long-term measures, as long as the

[19] The two situations described in the text below do not include areas involved in the analysis of ozone transport in the Northeast (see IV.E. "Transport Considerations"). These areas will not have the results of the ROM analysis until well after the 2-year submittal deadline. The EPA believes, however, that currently available models and methodologies will be adequate to enable these areas to estimate transport effects as well as impacts from their own sources before the ROM results are available. Control requirements can thus be determined and included in the 2-year plan submittal based on these analyses. Once the ROM analysis is completed, these plans can be revised to the extent necessary to incorporate additional controls to reduce downwind impacts. The EPA expects the plans to be revised expeditiously after the ROM results are available upon completion of the ROM analysis. The EPA will work with States in determining schedules for revising their SIP's upon completion of the ROM analysis but expects all revisions to be accomplished and submitted within 5 years of the date of the SIP call.

[20] Defined as any county experiencing ozone violations and not within or adjacent to an MSA or CMSA. Requirements for counties that experience ozone violations and are adjacent to an MSA are discussed above in I.A., "Ozone Nonattainment Areas" and discussed later in this notice.

[21] Areas that are found to be nonself-generating and that are in the ROM domain (see section IV.E.) cannot make an acceptable determination of the responsible upwind area(s) until the ROM results are available.

[22] Of course, in some cases, the upwind areas will already have begun revising their SIP's because of their own nonattainment problems and may already be accounting adequately in their revisions for effects on all downwind areas.

substitute measures would produce comparable emission reductions and are adequately adopted within the time period allowed for the second SIP submittal. The State must complete full adoption of and submit the long-term measures expeditiously, but no later than 3 years from the due date for the initial SIP. The EPA Regional Offices will work with States needing long-term measures to develop expeditious schedules for completing the necessary planning and adoption activities.

In general, EPA expects these areas to consider first both traditional and nontraditional measures which can be developed and adopted within the 2-year initial planning period before adding long-term measures to the control strategy. The EPA expects to provide guidance concerning long-term measures, particularly with regard to the types of measures for which less than complete adoption by the 2-year submittal will be allowed, what types of areas will likely need long-term measures (and, therefore, additional time for the complete adoption of all measures) and what information and commitments will be required in the 2-year submittal. (See Section IV.C.4, "Requirements for Adoption of Transportation-Related Control Measures.")

III. Modeled Demonstration of Attainment

As described above, EPA believes that the Act requires all SIP's to contain control measures demonstrated to result in attainment of the ozone and CO NAAQS as expeditiously as practicable, but by a date certain. The EPA historically has required that States demonstrate attainment through the use of computer models that predict the effects of emission reductions on ambient pollutant concentrations.

The EPA recognizes that the use of modeling and model data bases for ozone and CO in the past for various reasons has led to imperfect predictions of attainment. However, EPA continues to believe that modeled attainment demonstrations that are assembled with reasonable care and are consistent with EPA guidance can provide a rational basis for EPA's determinations of whether SIP's "provide for" timely attainment, within the meaning of sections 172 and 110 of the Act. As a result, EPA intends to continue its reliance on modeling analysis in the post-1987 round of air quality planning as modified by subsequent experience.

The proposed Policy Statement near the end of today's notice explains in detail EPA's proposed requirements for assembling adequate modeling demonstrations. A brief summary of the more notable aspects of those requirements appears below.

A. *Models*—1. *Ozone.* Determination of the reduction in VOC's or NO_x needed to attain the ozone NAAQS may be made using one of two modeling approaches. The preferred model is the Urban Airshed Model (UAM), a photochemical grid model. The second acceptable approach is the use of the Empirical Kinetic Modeling Approach (EKMA), which is less costly to run than UAM.

The UAM has greater potential than EKMA for evaluating the details of ozone control strategies, primarily because this model considers meteorology in greater detail and can relate emissions directly to ambient ozone concentrations. This model can take into account wind fields, dispersion, and relative position of sources in addition to atmospheric chemistry.

At a minimum, all areas must use a model with the accuracy of the city-specific EKMA. The inability of simpler models to account adequately for chemical kinetics and meteorological processes reduces their ability to represent local conditions accurately. Accordingly, EPA will not approve plans based on attainment demonstrations that rely on linear or proportional rollback techniques. Also, EPA proposes not to allow States to rely on the wind trajectory analysis, known previously as Level II, because of the poor performance of that approach in the past. The EPA has revised its guidance to be more explicit with regard to the use of wind data in EKMA. The EPA is also issuing new guidance which includes updated methods for estimating future ozone, nonmethane organic compound, and nitrogen oxide transport levels for use in EKMA. These changes should result in less optimistic assumptions concerning reductions of transported ozone than provided under the previous guidance.

Use of a model other than EKMA or Urban Airshed must be approved by EPA prior to a commitment by the State to its use. Since the UAM requires more time and resources than EKMA, EPA does not expect many areas initially to choose the UAM approach. Those areas expecting to perform Urban Airshed modeling should be aware that EPA will not allow States to delay the initial submittal of attainment demonstrations just because of time or resource complications resulting from the use of this model. (However, an area may update its attainment demonstration in subsequent years with more accurate or complete information.) Areas expecting to perform Urban Airshed modeling should begin early to acquire the necessary data bases so that the demonstration can be submitted on time.

2. *Carbon Monoxide.* The EPA presumes that most CO problems, especially those of a long-term nature, are not merely a collection of "hotspots," but are either areawide (needing areawide control measures) or are caused primarily by an underlying areawide problem. In particular, EPA believes that larger metropolitan areas with high volumes of traffic, high traffic densities, or many closely-spaced congested intersections will typically have an areawide problem, even though isolated hotspots may also contribute to violations in such areas. In contrast, EPA believes that true "hotspots" lacking any significant areawide contribution are generally characterized by a limited number of isolated points of traffic congestion (i.e., widely-spaced congested intersections, high-volume traffic generators such as shopping centers, etc.) found typically in areas with relatively low population. In these areas, removal of the cause of congestion would, by itself, eliminate the CO violation at the hotspot. Given the absence of an areawide contribution, solutions for such hotspots generally should not involve long-term measures, since short-term, localized measures are typically available. The EPA believes that States can solve such CO hotspot problems with the application of short-term measures (within 3 years of the date EPA approved the SIP).

The choice of models depends on classification of the problem as either areawide or hotspot, or both. If, after using the above criteria, the State believes that a problem should preliminarily be characterized as a hotspot (or small collection of hotspots) without an areawide problem, it should first define an area around the hotspot which contains sources contributing emissions seen by the hotspot monitor (or the model receptor if a hotspot modeling analysis was used). Then, other likely hotspots in the remaining portions of the county should be analyzed through monitoring and modeling to confirm whether they are indeed hotspots. Due to the localized nature of hotspots, EPA believes that hotspot control measures (e.g., traffic flow improvements, intersection or corridor modifications, etc.) can be implemented in the short term (i.e., not later than 3 years after EPA approved the SIP). Hotspot problems requiring longer time periods for correction will

be presumed to require areawide measures (e.g., enhanced I/M, VMT reduction measures). Where both short-term hotspot controls and areawide controls are applied, the State should perform both hotspot and areawide modeling. The detailed requirements for performing the necessary modeling analyses appear in the proposed Policy Statement and associated guidance.

B. *Data Requirements*—1. *Ozone*—a. *Geographic Area for Emission Inventory.* The EPA believes that the geographic scope of the demonstration areas used in the past has been either too narrow or inconsistent from State to State. To remedy this situation, EPA proposes, in most cases, to standardize the demonstration area for all emission sources as, at a minimum, the boundary of the MSA or the CMSA (if one exists). The detailed requirements relating to emission inventories in these areas appear in the proposed Policy Statement and associated guidance.

The EPA also believes that major sources of VOC's, CO, and NO_x (greater than or equal to 100 tons per year potential to emit[23]) outside but near the MSA/CMSA boundary may contribute to exceedances of the NAAQS in the SIP call area. For this reason, EPA proposes to require that States include emissions from such major stationary sources located within 25 miles[24] of the MSA/CMSA boundary in the demonstration area inventory, even if the 25-mile distance extends into another State or MSA/CMSA.

Where the 25-mile band for two MSA's receiving SIP calls would overlap, it would be appropriate for the two metropolitan areas to include the same sources in their baseline inventories. In other cases, sources may be within 25 miles of more than one MSA/CMSA. These results are not inconsistent with the goal of broadening planning boundaries, because large sources may contribute to ozone concentrations in one MSA on one day and a different MSA on another day. In those instances where a major source is within 25 miles of an MSA/CMSA but resides in an adjacent State, EPA intends to rely on the thrust of section 110(a)(2)(E) of the Act to call on adjacent States to provide such information to neighboring States. If necessary, EPA may issue SIP calls to States failing to provide the required data.

If monitoring sites which exceed the ozone NAAQS are located in non-MSA counties adjacent to an MSA/CMSA, EPA will presume that such counties should be treated as extensions of the MSA/CMSA for planning purposes. Such adjacent non-MSA counties should inventory sources as if they were part of the defined MSA/CMSA, except that the 25-mile planning guideline does not apply. For isolated non-MSA's (i.e., rural areas not adjacent to an MSA), the baseline inventory should include at a minimum all sources within the county containing the site which exceeds the NAAQS.

b. *Air Quality Data.* Data requirements for ozone modeling are set forth in the proposed Policy Statement near the end of today's notice. A discussion of these data requirements, as well as ozone modeling procedures, is contained in Appendix I, "Modeling Procedures and Data Base Requirements to Support Post-1987 Ozone Policy." These requirements and procedures are intended to replace those published in the November 14, 1979, Federal Register (44 FR 65667) "Data Collection for 1982 Ozone SIP's."

2. *Carbon Monoxide.* Depending on the modeling requirements, the geographic coverage of the CO inventory may be as broad as the MSA/CMSA or as limited as a central business district (CBD) traffic corridor or other demonstrated hotspot problem. The EPA proposes to require that cities with areawide CO problems include within their emissions inventory at a minimum all sources within the MSA/CMSA. Areas that can demonstrate (using the procedure in section III.A) that their CO problem is limited to a few hotspots in the CBD and that the solutions to those hotspot problems lie in solely short-term, localized control measures rather than areawide measures may limit the geographic coverage of their inventories as appropriate, with approval of the appropriate EPA Regional Office.

C. *Requirements for Emission Baselines and Projections*—1. *Baselines.* Base year emissions must represent emissions which contributed to ozone exceedances during the 3- or 4-year period of air quality data used in the modeling. Therefore, it must represent typical ozone season weekday emission levels which existed during that period. Where possible, baseline inventories should be prepared for a 1987 base year. Base year emissions must reflect actual conditions, defined as the estimated typical emission factor (emissions per unit of production) multiplied by the typical weekday production rate and hours of operation.

If emissions changed significantly from one year to the next, during the 3- or 4-year period of air quality data used in the modeling, it may be necessary to select more than 1 year's emissions as representative of the base period. In this case, attainment emissions levels should be calculated by applying the modeled percent reduction for each year of air quality data in the base period to the corresponding year's emissions. Then, the overall attainment emissions level is the fourth highest[25] of these levels as opposed to the fourth highest percent reduction if a single base year inventory is used. (Current practice allows modeling only the years after the emissions changed, thus excluding the previous data from consideration. The EPA proposes not to allow this practice in the future.

Base year inventories for ozone in the entire MSA/CMSA as well as non-MSA counties that are adjacent to an MSA and exceeding the NAAQS shall individually list all VOC sources with a potential to emit at least 10 tons per year and CO and NO_x sources with a potential to emit at least 100 tons per year. Sources with emissions below these amounts may be aggregated by source category. For the 25-mile band around the MSA/CMSA, VOC, CO and NO_x sources with a potential to emit at least 100 tons per year shall be listed individually. Base year inventories for sources affected by existing regulations must also reflect appropriate effectiveness levels, as described below.

2. *Credit for Rule Effectiveness*—a. *Ozone.* The EPA believes that one reason ozone levels have not declined as much as expected is that reductions from national and local control measures have not been as high as expected. Past SIP's have assumed that implemented rules would be fully effective in practice, and would achieve all of the required or planned emission reductions. Based on past experience, however, EPA now does not believe that rules are fully effective across all sources, all source categories, and over time. Limited studies in California indicate that the effectiveness (i.e., the ratio of actual reductions to expected reductions expressed as a percentage) of some rules, is much lower than 100 percent.

Section 110(a)(2)(B) of the Act requires that SIP's include measures "as necessary to ensure attainment and

[23] As defined in 40 CFR 51.165(a).

[24] The 25-mile distance is based on the maximum distance downwind of urbanized areas recommended for location of ozone monitors (see Appendix I).

[25] Assuming 3 years of complete data. If fewer than 3 years of complete data exist, then the third or the second highest attainment level must be used.

maintenance" of the NAAQS. The EPA believes this provision requires that plans should attempt to provide a high degree of confidence that attainment will in fact be achieved through implementation of the adopted measures and commitments.

Elsewhere in this policy, under the section entitled "Maximizing Effectiveness," EPA is proposing to require States to assess existing rules and take appropriate corrective action, including SIP revisions to those rules, to improve their effectiveness. The EPA expects that States will meet these requirements and that the effectiveness of both existing and future rules will improve as a result.

The EPA does not believe, however, that it is appropriate to continue the past practice of assuming in the attainment demonstrations that either existing rules with future compliance dates or future rules will be fully effective, unless such effectiveness has been adequately demonstrated. Therefore, for both new and existing rules, EPA proposes to allow States to assume not more than 80 percent of full effectiveness unless higher levels are adequately demonstrated, as described in the policy. The EPA recognizes that, to date, States have performed few rule-effectiveness evaluations quantifying the amount of reduction actually achieved from various rules. The EPA also recognizes that an assumed effectiveness percentage cannot fully represent the effectiveness of all rules and all source categories in all cities. Yet, EPA believes it is important to establish a consistent planning guideline for use until sufficient data become available to justify a different effectiveness lavel. The assumption of 80 percent effectiveness represents EPA's judgment that most rules are not achieving the full credit which has been assumed in previous SIP's, but that a combination of improved auditing and enforcement (see section VI of the policy) should produce a relatively high level of effectiveness, perhaps comparable to full compliance in at least four out of five sources. However, because some rules may in practice achieve less than 80 percent, EPA expects States to implement the requirements for improving the effectiveness of existing rules, as described in this proposal under "Maximizing Effectiveness of Existing Program," (see section VI) including any programs for futura corrective actions. The EPA anticipates that implementation of these requirements will also improve the effectiveness of future rules, due to improved enforcement and training, and elimination of ambiguities and deviations from EPA policy.

The EPA expects that reductions will be achieved as a result of corrective actions from rule effectiveness evaluations. However, since neither the amount of this reduction nor the effectiveness level of the rule will be known, EPA will not allow States to assume in their base year inventory that existing control measures are more than 80 percent effective prior to the evaluation. If evaluations have been performed for existing sources, the base year inventories of such sources must reflect the effectiveness level determined by the evaluation. Additional requirements for determining effectiveness credit for new and existing rules appear in the proposed Policy Statement near the end of today's notice.

b. *Carbon Monoxide.* As for ozone, EPA will allow States to assume effectiveness levels of more the 80 percent in their CO SIP's only if supported by evaluations meeting EPA criteria. Requirements for determining effectiveness credit for I/M programs and transportation control measures (TCM's) appear in the proposed Policy Statement and in associated guidance.

3. *Projections.* The demonstration must project all emission reductions occurring by, or in, the year in which attainment is projected to occur. If attainment is projected to occur more than 3 years from the base year, the demonstration must project reductions occurring within every intervening 3-year period prior to attainment for all sources in the inventory. Areas subject to requirements for interim progress [e.g., to avoid discretionary sanctions or to obtain a 2-year extension under section 110(e)] must make the first interim projection for 5 years (rather than 3 years) after the base year. These areas should then make 3-year interim emission reduction projections starting from the initial 5-year projection and extending to the attainment date.

Additional requirements for projecting emissions appear in the proposed Policy Statement.

IV. Requirement for Development of Control Strategy

Introduction. Once the State has determined the percent reduction needed to attain the NAAQS and the associated necessary reduction in baseline emissions, it must identify control measures that will meet this requirement, and will result in attainment as expeditiously as practicable and by a date certain. Implementation of existing and proposed national measures by EPA and affected industries will aid States in meeting the control targets. In the past, due to the imprecision inherent in control targets for ozone, EPA has required minimum reasonably available levels of control on certain types of VOC sources. This policy does not alter those requirements. The EPA proposes to require that any of these requirements which may not have already been implemented, be implemented expeditiously but not later than the end of 1992.

Beyond the national measures and the required State measures, EPA is proposing to require minimum rates of locally prescribed emission reductions for all areas except those with a truly marginal nonattainment problem. Areas subject to this progress requirement cannot rely on the Federal measures or any previously required State measure in determining compliance with the minimum rate of progress.

Areas that can demonstrate attainment in the short term will be required to demonstrate maintenance for up to 10 years from the SIP due date.

A. *Federally-Implemented Measures, Federally-Prescribed Measures, and Technical Support.* To assist States in achieving the required emission reductions, EPA is evaluating the need for additional Federal support on emission control technology. Four levels of support that could be provided are listed below:

—Federally-implemented measures (e.g., Federal regulation of gasoline refueling emissions, regulations for hazardous waste treatment, storage, and disposal facilities)
—Federally-prescribed measures for stationary sources (e.g., CTG documents that contain presumptive levels of RACT)
—Alternative control technology documents for stationary sources (containing technical information but no presumptive RACT)
—Direct technical assistance to States on stationary source control

While the potential exists for significant additional control of stationary sources, there are some major VOC sources for which effective State regulatory action is difficult without Federal Leadership on control technology. Federally implemented or prescribed measures may be appropriate where there is a large amount of VOC emissions on a national scale, and a Federal standard clearly dominates locally derived standards, or where a lack of national uniformity could lead to serious competitive problems affecting

interstate commerce, or create other adverse economic impacts. In addition, EPA would provide technical support where technical or institutional barriers make it difficult for individual States to deal with an industry in a perceived fashion.

The EPA solicits comments on the need for additional Federal support, the criteria for selecting which level of support is appropriate, and the source categories that should be included in each level. The EPA is also interested in comment on what forms of technical support are most desirable. Some source categories that may be candidates for additional Federal support are listed in Table C–1 of Appendix C. Additional discussion of the four levels of Federal support is contained in the following section.

1. *Federally-Implemented Measures.* The EPA believes that some categories of emissions should be controlled through regulations adopted at the national level. The EPA's current or planned regulations for these emission categories are described below. These measures will reduce emissions in areas that are experiencing ozone or CO violations.

a. *Regulation of Evaporative Emissions from Fuels.* Evaporative VOC emissions from gasoline-fueled vehicles occur when gasoline vapors expand in the fuel tank and when residual engine heat causes evaporation of fuel remaining in the carburetor and fuel lines. These emissions are dependent on the volatility, measured in part as the Reid Vapor Pressure (RVP), of the fuels involved. The EPA issued a comprehensive technical study in November 1985 of various alternatives for controlling evaporative emissions and has reviewed comments on that study.

Among other things, the study shows that the volatility of fuels in use has edged significantly higher than the volatility of fuels used during vehicle certification under EPA's Title II regulations. As a consequence, evaporative emissions from vehicles operating on commercial fuels are well above EPA's certification standards.

To address this problem, EPA is considering limits on volatility of in-use fuels in order to reduce evaporative VOC emissions. The EPA has published a notice of proposed rulemaking and is soliciting comment on all relevant issues, including the technical feasibility and cost of its proposal and alternative control methods [see 52 FR 31274 (August 19, 1987)].[26]

b. *Refueling Emissions.* Ozone attainment demonstrations that States have submitted in the past reveal that emissions from the refueling of motor vehicles at service stations account for a significant fraction of VOC emissions inventories. The EPA recently proposed regulations to achieve the control of emissions from vehicle refueling through the use of "on-board" control technology (see 52 FR 31162, August 19, 1987).

Twelve local areas in California, as well as the District of Columbia, have already implemented regulations to achieve the reduction of refueling emissions through the use of alternative means, namely, equipment at service stations that capture the vapor during vehicle refueling (Stage 11 vapor recovery). The State of Missouri has already begun to implement a Stage II program for the St. Louis area, and projects that it would result in a sizeable reduction (about 3 percent) in the area's emissions inventory. Also, both New York and New Jersey included in their approved ozone SIP's, legally enforceable commitments to adopt a Stage II program.

In its recent regulatory proposal concerning onboard controls, EPA stated that it is considering onboard vehicle control as the preferred national strategy to limit motor vehicle refueling emissions. It should be noted that choosing a refueling control strategy presents an unusual issue in that one control measure (Stage II) could be employed and eventually replaced by a more effective alternative (onboard).

The EPA is soliciting comments on all relevant issues involving technical feasibility and the cost of alternative control methods.

Pursuant to section 202(a)(6) of the Act, EPA must consult with the Secretary of Transportation with respect to motor vehicle safety before promulgating a requirement for onboard technology. Because of the statutory significance attached to this consultation, EPA will reopen the record on that rulemaking (onboard) when the EPA receives comments from the Secretary of Transportation and will repropose the rule to assess changed circumstances.

The EPA believes that the decision as to whether States must implement Stage II controls for the interim period before onboard controls become fully effective should depend on the extent to which States have already planned for and implemented Stage II. Accordingly, in areas where Stage II has already been installed, or is in the process of being installed, the State must continue to install and use these systems while onboard controls are phased in. In these circumstances, the continued use of existing Stage II would provide interim environmental benefits at a reasonable additional cost. Such areas could, however, phase out these systems as onboard is phased in. Such changes, of course, would need to be incorporated in revisions to the applicable SIP. Areas that have not begun implementation of Stage II controls, but whose SIP's contain commitments to do so, should proceed with implementation since those areas and EPA have already relied on those reductions to produce progress toward eventual attainment. In other nonattainment areas, interim Stage II controls would remain a control measure that States could consider including as a part of the area's overall ozone attainment strategy, as discussed in section IV.B.

c. *New Standards for Hydrocarbon Emissions From Light-Duty Trucks.* The EPA recently published an advance notice informing the public that EPA is contemplating various new rulemakings related to motor vehicle emissions standards and regulations [see 51 FR 32032 (September 8, 1986)]. The EPA stated in that notice that it is evaluating, among other things, more stringent hydrocarbon exhaust emission standards for light-duty trucks generally and for light- and heavy-duty trucks at higher altitudes. Reducing hydrocarbon emissions from these vehicles could contribute significantly to reductions in ozone concentrations in nonattainment areas.

d. *FMVCP.* The FMVCP consists of a set of measures carried out at the national level that are intended to assure that mobile sources are designed and durably built in accordance with the emission reduction goals set out in the Act.

Prior to production, prototype vehicles are tested over a 50,000-mile cycle, and manufacturers receive a certificate of conformity with emission standards. Vehicles are also randomly sampled from assembly lines to assure that the manufacturing process conforms with design specifications. Finally, there are provisions for recalling classes of vehicles with common defects, and

[26] The EPA is aware that several northeastern States are examining whether to adopt regulations limiting the volatility of fuels used within those States prior to any final action by EPA to control fuel volatility. While the Agency generally encourages States with persistent nonattainment problems to consider all possible means to bring about attainment, the selection of measures affecting fuel content may, under section 211(c)(4) of the Act, require an analysis of such issues as whether the State action has been preempted by Federal action and, if so, whether the State action is necessary to attain the relevant standard. The EPA intends to address these issues in future **Federal Register** notices.

warranty protection for individual vehicle owners where emission controls fail within a vehicle's useful life.

The FMVCP will continue to provide additional VOC and CO reductions in the near term, as the vehicle fleet turns over. The EPA will continue to provide guidance on how States should calculate the emission reductions to be achieved by the FMVCP over the next several years so that States may rely on these reductions in their attainment demonstrations.

e. *Hazardous Waste TSDF.* The EPA is investigating the magnitude of area source (noncombustion) emissions from hazardous waste treatment, storage, and disposal facilities (TSDF) [Facilities permitted under subtitle C of the Resource Conservation and Recovery Act (RCRA)]. Where warranted, air regulations will be issued under the RCRA or the Clean Air Act. There are seven potential air emission sources at TSDF: surface impoundments, landfills, wastewater treatment tanks, waste piles, land treatment, pretreatment facilities, and transfer operations. Pollutants being considered include VOC, particulate matter, and a range of specific toxic substances. Preliminary analysis indicates that TSDF air emissions are sufficient to warrant regulation and that emissions of VOC are particularly significant.

The TSDF rules are being developed in different stages. On February 5, 1987 (52 FR 3748), a rule was proposed covering VOC and toxic emissions from waste solvent treatment facilities and fugitive emissions from equipment leaks. This proposed rule was developed in concert with the land ban rules being developed under RCRA. The proposed rule addresses some new sources of air pollution that are expected as industry develops new traatment technologies in response to the land ban rule. The next stage of regulation will be the comprehensive rules covering all seven types of area sources in TSDF. These rules are currently under development.

f. *Municipal Landfills.* Uncontrolled municipal landfills emit VOC and toxic pollutants due to migration to the surface of organics contained in the waste or generated during the decay process. Current control techniques consist of underground organic collection and combustion systems. The EPA is currently exploring regulatory options under the Act for controlling these emissions.

g. *Additional National Measures.* The EPA will evaluate additional potential national measures to be federally implemented and will consider whether to commence rulemaking to implement them. Such measures could include regulations to control emissions from certain consumer products. Such consumer products may be appropriate areas for national regulation since they are marketed across State lines and are pervasive throughout society, so that it may be difficult for a local area to regulate them without interfering with interstate commerce. National regulation of manufacture or distribution may be more practical than local control for such products. National regulations in this area could be advantageous to industry also, since nationwide distributors of products would have to deal with a much smaller number of regulations applying to their products than if each local area were to adopt its own regulations. The EPA solicits comment on whether it should pursue such regulations and whether EPA has sufficient authority (e.g., under section 301 of the Clean Air Act or other statutes) to promulgate them.

2. *Federally Prescribed Measures.* Numerous control measures have been federally prescribed and adopted as part of previous EPA-approved SIP revisions. Continuing current policy, the EPA requires that these measures remain in effect while the area is violating the NAAQS and until such time as the measures are modified in accordance with established SIP revision procedures. This requirement also applies to previous regulations not specifically required under today's proposed policy, for example, where pre-1987 rural nonattainment areas were required to implement Group I and II CTG's for major sources, but which are now adjacent non-MSA's and have no new control requirements. In particular, EPA believes that nonattaining areas in the Northeast "corridor" should maintain previously adopted and EPA-approved regulations since many areas in this region could eventually need to employ minimum or additional control measures to solve the Northeast transport problem.

a. *Stationary Source Measures.* Because of the relative imprecision of such ozone databases and modeling techniques as city-specific EKMA, EPA historically has required most areas to include in their control strategies certain stationary source control measures that EPA believes are reasonably available, and necessary to ensure that the SIP "provides for" attainment of the ozone standard as expeditiously as practicable. See section 110(a)(2) (A) and (B) and section 172(a). The EPA proposes to continue this requirement.

In the past, the volume of minimum control requirements that EPA has thought necessary to assure attainment in an area has turned on whether the area is urban or rural. Consistent with today's proposal to require new attainment demonstrations for self-generating rural areas, EPA intends to apply to such areas certain minimum control requirements applicable already to urban areas. Nonself-generating rural areas would remain subject only to a subset of those requirements. These different sets of measures are described below.

i. *Urban Areas and Self-generating Rural Areas.* In EPA's guidance of April 11, 1979 (44 FR 20372), EPA required all urban ozone nonattainment areas to include in their Part D SIP's regulations to apply RACT to sources falling into the categories covered by the first two sets of CTG's that were issued at the time.

In EPA's January 1981 guidance on the requirements for extension area plans, EPA required extension areas to supplement the first two sets of RACT rules with RACT rules for the categories covered by the third set of CTG's as well as for sources with the potential to emit 100 tons per year or more uncontrolled but not falling within any CTG category. In EPA's January 1984 guidance, EPA extended these requirements for extension areas to certain nonextension areas receiving SIP calls. This policy will not alter these requirements. If not already implemented, these measures should be implemented expeditiously, but not later than the end of 1992. The 1992 date would provide for the most complex cases to develop and adopt regulations within a year and would provide up to 3 years for compliance with the regulations. However, in many cases, EPA expects implementation of these regulations within a shorter period of time to be feasible.

The EPA now proposes to require all urban areas receiving post-1987 SIP calls for ozone, whether they are extension or nonextension areas for purposes of Part D planning, to adopt RACT rules for all of the CTG categories.[27] This

[27] If a State-uses photochemical dispersion modeling (Urban Airshed) to show that attainment may be reached within 3 years after EPA's approval of the required SIP without employment of all of these measures, then these minimum requirements would not apply and the State could use any mix of measures necessary to demonstrate timely attainment. A State's desire to use a photochemical dispersion model, however, would not be sufficient reason to delay its submittal of a SIP meeting the requirements of this policy. Absent a timely submittal of an Urban Airshed modeling analysis showing that the control measures described are unnecessary, EPA will presume that they are necessary. Thus, a State contemplating the use of such a model should account for the extra time required for such an analysis by commencing its analysis as early as possible.

requirement will apply as follows: for areas currently designated as nonattainment, and areas redesignated to attainment but measuring violations of the ozone standard, the requirements will apply in the section 107-designated (or previously designated) area or the control area included in the previously approved Part D SIP, if applicable; [28] for newly found nonattainment areas those requirements will apply to the "central" county(ies). This change will add needed certainty to the attainment demonstrations for some areas and reduce the disparity in minimum stationary source controls that resulted from the historical classification of urban areas as extension or nonextension.

The EPA also proposes to require that areas that are classified as self-generating rural nonattainment areas be subject to the same minimum requirements for stationary source control (i.e., adoption of RACT for all Group I, II, and III CTG sources) as urban areas. Previous policy required all rural areas to apply RACT only on sources with the potential to emit 100 tons per year or more and falling within the Group I and II CTG source categories, on the assumption that few if any rural areas were self-generators of ozone. Extension of urban area requirements to self-generating rural areas is appropriate because it is likely that such rural areas would have been subject to pre-1987 urban requirements if they had been found to be self-generating prior to this policy.

Continuing a long standing requirement for adoption of new control measures, the post-1987 policy will require nonattainment areas subject to this policy, except truly marginal nonattainment areas [29] and isolated rural nonself-generating areas, to adopt an appropriate enforceable regulation for each source category covered by any new CTG. The EPA is proposing to exclude truly marginal nonattainment areas from this requirement on the grounds that reductions from federally-implemented measures, pre-1987 requirements (such as Group I, II, and III CTG's) and enhanced effectiveness of pre-1987 requirements, are likely to produce near-term attainment in these areas and it is unlikely that new CTG's could be adopted and implemented in sufficient time to advance the attainment date. However, EPA will require such marginal areas to include in their SIP's a commitment that, if attainment is not achieved by the projected date, they will adopt new CTG's (including any new CTG's issued since today's proposal). The regulation must apply as follows: for areas currently designated as nonattainment, and for areas redesignated to attainment but measuring violations of the ozone standard, the regulations must be adopted for the section 107-designated (or previously designated) area or the control area included in the previously approved Part D SIP, if applicable; for newly found nonattainment areas, these regulations must apply to the "central" county(ies) as defined by the Bureau of the Census. Satisfaction of these requirements requires adoption by each subsequent January of additional regulations for sources covered by CTG's issued by the previous January.

ii. *Nonself-Generating Rural Areas.* The EPA does not intend to require nonself-generating rural nonattainment areas to adopt Group III CTG stationary source requirements, but EPA will continue to apply existing requirements to these areas. As indicated in the guidance EPA issued on May 19, 1978 (43 FR 21673) and April 4, 1979 (44 FR 20372), and in subsequent rulemakings, EPA required the SIP's for these areas to contain RACT regulations only for major (potential to emit 100 tpy or more) sources covered by the first two sets of CTG's, and new source review requirements other than the requirement for case-by-case offsets. The policy proposed today continues to apply that guidance.

As indicated earlier, EPA continues to believe that the ozone problems suffered by these areas are attributable primarily to emissions from upwind areas. The EPA believes, however, that even though these areas may not contribute significantly to their own ozone concentrations, they may cumulatively generate sufficient VOC emissions to contribute significantly to ozone concentrations in downwind areas. The EPA believes that the above requirements will adequately minimize the transport of VOC's to downwind areas and, as mentioned earlier, provide an adequate margin for growth that would obviate the need for case-by-case offsets.

b. *Enhanced I/M.*[30]

The EPA has considered the potential for greater VOC and CO reductions from vehicle inspection and maintenance programs, and believes that a substantial enhancement of reductions beyond what the basic existing program will achieve is available for areas with relatively serious ozone or CO nonattainment problems. The EPA is considering a variety of alternative approaches with respect to enhanced I/M. One option would be not to establish a specific enhanced I/M requirement, but instead, to allow States to consider the benefits available from enhanced I/M, along with those from other available control measures, in deciding how to meet the 3 percent average annual reduction requirement described in later sections of this policy. There are advantages to this approach. By allowing States to balance the benefits of an enhancad I/M program along with other available control measures instead of mandating a national enhanced I/M requirement, States may be better able to tailor their control programs to meet the 3 percent annual reduction requirement. The EPA is soliciting comment on this option, and whether the 3 percent annual reduction requirement obviates the need for a separate enhanced I/M requirement in the post-1987 nonattainment area policy.

Another possible approach, and the way EPA is presently leaning, is to establish a specific enhanced I/M requirement for areas with relatively serious ozone or CO nonattainment problems. If EPA decides to establish a separate enhanced I/M requirement, EPA would also make it applicable to all urbanized areas with a design value,[31] based on 1985–1987 data, at or above 0.16 ppm for ozone or 17 ppm for CO. The EPA doubts that areas with ozone or CO design values equivalent to or above the stated values will be able to

[28] In the situation in which the area was previously classified as a rural nonattainment area under the old policy but is classified as urban (MSA) under today's proposal, the minimum area for control will be the central county in the MSA. However, RACT requirements applicable to the previous control area would continue to apply unless modified through appropriate SIP revision procedures.

[29] As defined in Section IV.B., truly marginal nonattainment areas are those with design values below 0.16 ppm ozone (0.155 ppm where data are reported to three decimal places) or 17 ppm CO and able to demonstrate attainment in the short term by relying only on emission reductions from (1) federally-implemented measures, (2) measures required for the area in EPA's pre-1987 guidance, and (3) other measures adopted by the State and approved by EPA on or before publication of today's proposal.

[30] EPA is considering a variety of options regarding enhanced I/M, including establishing a specific enhanced I/M performance level for some nonattainment areas as well as relying on the 3 percent reduction requirement to force consideration of enhanced I/M. At other places in this document, the distinction between these options may not always be expressed, but is intended throughout this policy.

[31] For determining areas subject to this requirement, and other requirements employing these "cutpoints," EPA will use the rounding convention that values ending in 5 through 9 round up, and values ending in 1 through 4 round down. Hence, an ozone design value of 0.155 ppm becomes 0.16 ppm and a CO design value of 16.5 ppm becomes 17 ppm.

demonstrate persuasively that they will attain in the near term.

The EPA, therefore, is considering whether to require such areas to implement changes to raise the performance level (that is, the VOC and/or CO reduction effectiveness) of their I/M programs well above that of the basic I/M requirement. Consistent with existing EPA policy, a new I/M requirement, if adopted, would not apply to urbanized areas, as defined by the U.S. Census Bureau,[32] with a population below 200,000.

In EPA's view, enhanced I/M may be a minimum indicator of "reasonable efforts" for Part D areas within the meaning of section 176(a)(3), and therefore could be part of EPA's consideration of whether to implement other discretionary sanctions after 1987. In areas which will be able to persuasively demonstrate attainment of the standards within the 3-year period, EPA believes that local flexibility is important and does not plan to include them under an enhanced I/M requirement, if adopted.

One reason for considering a separate enhanced I/M requirement is that the sooner areas have some certainty that enhanced I/M is required, the more expeditiously they can accomplish its implementation. Establishing a design value cutoff for the requirement, although admittedly imprecise, could eliminate the loss of time associated with modeling and with alternative strategy evaluation. The EPA is requesting comment on both the approach and on the appropriateness of the design value levels being proposed if a separate enhanced I/M requirement is adopted. The remainder of this section discusses various aspects of and issues related to a separate enhanced I/M requirement if adopted. In several places, specific issues are identified on which EPA is soliciting comments.

Possible enhancements to I/M programs for greater VOC and CO reductions fall into four categories. First, operating losses due to improper inspections, incomplete enforcement, or lenient repair waiver systems can be reduced. Some affected areas may have already taken steps to do so. Second, additional vehicles which are presently exempt based on age, type, or owner residence can be subject to the inspection requirement. Third, the emission test portion of the periodic inspection can be made more sophisticated or the pass/fail limits or cutpoints more stringent. Fourth, important emission control components can be checked visually, or by other means that do not involve emissions measurement, for evidence of tampering or misfueling. Some of the major components that could form the basis for an enhanced I/M program include: (1) Adding older vehicles (back to 1968) to the program, (2) increasing program stringency up to 35 percent, (3) changing from idle test to two-speed or loaded-mode tests, (4) adding catalyst and filler-inlet inspections, and (5) adding complete anti-tampering programs.

Rather than require States to adopt specific enhancements from any of the specific categories above, EPA would define the enhanced I/M requirement, if adopted, in terms of a numerical performance level which may be achieved by a combination of program elements. The EPA is considering a performance level at roughly equivalent to the design level of the third most stringent of the 27 or so distinct I/M programs now planned or in operation in ozone nonattainment areas. By preliminary EPA estimates, this level will correspond to about 35 percent more VOC reduction than the median of those 27 designs, and 150 percent more than the least stringent of them. For CO, this level corresponds to about 20 percent more reduction than the median design and 180 percent more than the least stringent.

In choosing a performance level for enhanced I/M, EPA believes it is important to maximize the emissions reductions that can be achieved while minimizing the costs of control and preserving as much as possible the States' flexibility in designing programs that will meet their needs and desires. As discussed in Appendix E, the performance level discussed above corresponds to an average annual reduction of 5700 tons of VOC per million vehicles in the areawide fleet. This level would provide a significant additional increment of emissions reduction and allow the States to choose among major program design options, such as, biennial versus annual inspection frequency and decentralized versus centralized format.

There are a number of other options at higher or lower performance levels which EPA could also select for an enhanced I/M performance level. For instance, EPA could select the most stringent current program, which would provide an even larger incremental reduction. The most stringent program would provide annual VOC reductions of 7200 tons; however, it would force most States to choose a centralized, annual program with strict tailpipe I/M and strict anti-tampering checks. On the other hand, EPA could choose a lower performance level, for example, one equivalent to the fifteenth most stringent program. This performance level would provide a lower incremental emission reduction, since it would provide an average annual VOC reduction of about 4500 tons. However, it would provide States even more flexibility in designing their programs. This lower level could be met by having an intensive tailpipe I/M program alone or by various combinations of tailpipe I/M and anti-tampering checks.

Because of the wide range of enhanced I/M performance levels that EPA could choose, EPA is soliciting comment on the appropriateness of alternative performance levels being considered for an enhanced I/M requirement. The EPA also intends, in making a final decision, to make a full study of the likely costs of alternative I/M programs.

The EPA has previously required that the minimum emission reduction level be achieved in the urbanized area as defined by the U.S. Census Bureau. Areas which extended their I/M program boundaries beyond the urbanized area were permitted to "bubble" the reductions from the additional vehicles and to reduce the overall stringency of the program. In some cases, this bubble has allowed programs to suffer significant operating losses while avoiding a call for a corrective plan.

For an enhanced I/M requirement, if adopted, EPA is planning to retain the U.S. Census Bureau's defined urbanized area as the base for geographic coverage. The EPA is considering, however, not to allow emission reductions obtained from vehicles outside the urbanized area but within the MSA/CMSA to count toward meeting an enhanced I/M performance level, if adopted. This is because EPA believes that reductions obtained by expanding the enhanced I/M program outside the urbanized area would, therefore, most appropriately apply toward meeting the progress requirements for the MSA/CMSA (as described later in this notice) rather than toward weakening I/M requirements in the urbanized areas.

The EPA recognizes that the MSA/CMSA could also serve as a reasonable

[32] An "urbanized area" is an area defined by the Bureau of the Census according to specific criteria, designed to include the entire densely settled area around each city. An urbanized area must have a total population of at least 50,000. The urbanized area criteria defines a boundary based primarily on a population density of at least 1,000 persons per square mile, but also include some less densely settled areas within corporate limits and such areas as industrial parks, railroad yards, golf courses if they are adjacent to dense urban development.

basis for geographic coverage. Part of the definition of an MSA is that it encompasses the commuting area around an urban core. EPA is soliciting comment on whether an enhanced I/M requirement, if adopted, should be required in the entire MSA/CMSA.

Detailed guidance on an enhanced I/M requirement, if adopted, is included in Appendix E. This appendix states the specific numerical performance requirement being considered. It also contains instructions for estimating the VOC and CO emission reductions achievable from various combinations of program elements, i.e., a yardstick by which affected areas can compare their current I/M program and various enhancement alternatives to the new performance standard.

In addition to the new numerical performance standard, Appendix E describes certain other required I/M program features necessary to insure that adequate resources and management tools and practices are in place to assure that each enhanced I/M program contributes to attainment as fully as expected. These administrative requirements include strict criteria for cost waivers, measures to assure proper inspection in decentralized programs, and activities to improve repair effectiveness.

Appendix E also describes proposed requirements being considered for periodic self-evaluation and reporting for enhanced I/M programs. These requirements would allow EPA to identify programs which are not meeting the performance requirement due to shortcomings in implementation, and to propose nonimplementation sanctions in such areas.

The EPA is also soliciting comments on the questions listed below related to the enhanced I/M program requirement being considered:

—Should a lower population threshold than 200,000 in the urbanized area be used to exempt areas from requirements of I/M?
—Should the population of the entire MSA be counted toward meeting the 200,000 population cutoff for requiring enhanced I/M?
—Should thresholds be lower in transport areas where ozone levels are severely impacted by upwind sources?
—Should areas under 200,000 population which are upwind of a nonattainment area and are contributing to its long-term nonattainment also be required to implement enhanced I/M?

3. *Technical Support*—a. *Alternative Control Technology (ACT) Documents.* From time to time, it may be appropriate to publish documents that provide technical information about the control of individual source categories. The documents would identify the emission control technologies that are available for a particular source category along with information on process operation, control efficiency, costs, and other impacts of control. A State could use this information as the basis for an emission limit based on the control technology that is most appropriate given the local needs and circumstances. The ACT document would not specify a presumptive RACT nor a minimum level of control that would be required.

Source categories that are selected as candidates for ACT documents are those which may contribute to local nonattainment problems, but which may not warrant national measures. Some candidates might include batch processing vents from synthetic organic chemicals manufacturing, industrial wastewater processes, automobile refinishing, and web offset lithography. The EPA solicits comments on the need for ACT documents and source categories that should be addressed.

b. *Control Technology Center.* The Control Technology Center (CTC) is a program that can provide technical assistance to State and local agencies on individual problems that pertain to control technology and source testing. A hotline has been established to respond to requests for assistance and to provide a quick response to questions. Callers will be put in contact with EPA engineers who have the most knowledge about the topic in question. The CTC hotline provides access to available expertise in both the Office of Air and Radiation and the Office of Research and Development, whichever can best fulfill the needs when an individual request for assistance occurs. This service is available to all State and local agency staff. The CTC hotline number is (919) 541–0800.

In some cases, the information to satisfy a hotline request is not readily available from existing literature or staff expertise. When this occurs, the CTC may undertake original engineering analysis to satisfy the request. In determining when it is appropriate to perform such analysis, the CTC will consider the level of need and urgency to the State or local agency making the request, the ability of the CTC to provide a timely and useful response, cost, value of the product to other States, and availability of resources. This service is intended to augment the technical and analytical capabilities of the States for problems that cannot be handled by their resident expertise.

The CTC does not overlap any of the responsibilities of the EPA Regional Offices. The CTC is a mechanism for providing engineering assistance only. Questions that involve such topics as policy guidance or enforcement determinations should continue to be addressed to the appropriate EPA Regional Office.

B. *Requirements of Expeditious Attainment Dates and Reasonable Progress.* For the reasons described earlier in this notice, EPA proposes to approve only those post-1987 SIP revisions that demonstrate attainment of the ozone and CO standards within 3 years of the date of EPA's approval of the revisions [with a possible 2-year extension under section 110(e)]. Thus, EPA will impose the applicable construction ban in any designated nonattainment area lacking such a demonstration for the MSA/CMSA in which the area is located.[33] Areas that cannot demonstrate attainment within the 3- (or 5-) year period could also become subject to other sanctions if they fail to make reasonable efforts to submit a plan showing attainment by an attainment date suitable for the area and reasonable progress in the interim. The following discussion describes the requirements for progress and attainment dates for both long- and short-term nonattainment areas.

1. *Areas Demonstrating Attainment Within the 3-year Period.* As indicated above, the required attainment dates for post-1987 planning are keyed to the date EPA approves the SIP revision [see sections 110(a)(2)(A) and 110(e)]. For purposes of planning, EPA suggests that States developing plans to produce attainment in the short-term after 1987 assume that EPA's review and approval

[33] The restrictions in EPA's regulations implementing the construction ban "apply only to major stationary sources of emissions that cause or contribute to concentrations of the pollutant for which the nonattainment area was designated as nonattainment, and for which the SIP does not meet the requirements of Part D or is not being carried out in accordance with the requirements of Part D" [40 CFR 52.24(d)]. The EPA's current regulations imply that only emissions of VOC are considered ozone precursors for purposes of the construction ban [See 40 CFR 52.24 (e)(f)(4)(ii), and (f)(5)(ii)]. For this reason, for ozone nonattainment areas, the ban would apply to major new sources and major modifications of existing sources of only VOC.

The demonstrations required for areas with NMOC/NO_x ratios of greater than 10:1 may reveal that new emissions of NO_x would contribute significantly to ozone formation in some areas. The EPA solicits comment on whether it should initiate a rulemaking to amend the regulations described above to identify NO_x as an ozone precursor for purposes of the construction ban in such areas.

For CO nonattainment areas, the ban would apply to major new sources and major modifications of existing sources of CO.

of their plans will be complete within 1 year from the date the plans are due. This would mean that, to receive approval, the plans would have to demonstrate attainment within 4 years of the date the SIP is due [1 year for EPA approval plus the 3-year period in section 110(a)(2)(A)].

Consistent with section 110(a)(2)(A) and, for Part D areas, section 172, EPA will require the SIP's to demonstrate attainment as expeditiously as practicable, even if that date would arrive before the end of the 3-year period. The EPA will assume that short-term nonattainment areas that apply the applicable minimum control measures (no later than the end of 1992) described in the preceding section are employing all "practicable" measures. Thus, only if those measures, combined with the relevant federally implemented measures, would advance an area's projected attainment date from the 3-year date would EPA require the area's SIP revision to show attainment by that earlier date.

Plans for areas that are still subject to the Part D planning requirements must also, as required by section 172(b)(3), be adequate to produce RFP. This means that they must, as required by the definition of RFP in section 171(1), produce "annual incremental reductions" in emissions, including "substantial reductions in the early years following approval" of their plans, sufficient to provide for timely attainment. Plans for these areas should demonstrate that their control strategies will provide for attainment as expeditiously as practicable. Such demonstrations should show that earlier implementation of control measures would not significantly advance the attainment date.

The EPA's experience in the early 1980's indicates that, despite efforts to review in detail all aspects of the demonstration of attainment, there have been instances in which the control strategies were assessed overly optimistically as to their ability to produce large emission reductions over relatively short time periods. Of particular concern have been those plans which delayed most of their reductions until the final year(s) before the projected attainment dates so that it was difficult to determine the likelihood of attainment until late in the plan implementation process. Because of the requirement for SIP's to contain sufficient measures to assure expeditious attainment [section 110(a)(2)(A) and (B)] and EPA's belief that in order to assure such attainment the plan must show progress in the interim years, EPA is proposing to require all areas (including those with short-term demonstrations) to achieve their required emission reductions at a minimum rate unless the area truly has a marginal nonattainment problem.[34] The EPA proposes to define an area as truly marginal if it has a design value below 0.16 ppm ozone or 17 ppm CO and it can demonstrate attainment in the short-term by relying only on emission reductions from (1) federally implemented measures, (2) measures required for the area in EPA's pre-1987 guidance, and (3) other measures adopted by the State and approved by EPA on or before publication of today's proposal. In all other cases, the area must achieve an average annual emission reduction, of at least 3 percent of the adjusted base year (typically 1987) emissions inventory for the demonstration area, commencing the year of the SIP call. The use of an annual 3 percent emissions reduction rate is based primarily upon previously realized reductions achieved through the application of CTG controls in nonattainment areas. The EPA believes that a 3 percent annual reduction will provide for an expeditious rate of attainment while also providing for the implementation of control measures at a feasible rate. The EPA does, however, invite comment on whether the 3 percent annual rate of emissions reduction is the optimum rate considering the need to balance expeditious progress and reasonable efforts requirements.

Reductions not creditable towards the 3 percent are: (1) The federally implemented control measures, (2) measures required for the area in EPA's pre-1987 guidance, and (3) other measures adopted by the State and approved by EPA on or before today's proposal. For this purpose, the base year inventory would be adjusted by subtracting from it the emissions that would have been eliminated if the area had implemented all of the applicable requirements of both EPA's pre-1987 policies and the other approved portions of its SIP (as just described). (See Table 1 "Summary of Ozone and Carbon Monoxide SIP Requirements.") Reductions occurring in the period before the date the SIP is due, but after the base year will be creditable toward required reductions (i.e., they are creditable if they are not included in one of the three categories listed above). The EPA expects States to continue developing and implementing those scheduled measures that have been found appropriate from prior planning efforts. Such measures should be viewed as part of the foundation effort to start the post-1987 program and are creditable toward the 3 percent requirement only if they are not included in one of the three categories listed above.

States should develop their control strategies so that the minimum average annual 3 percent reduction starts as early as possible and occurs at a continuous rate until attainment is achieved. The EPA recognizes, however, that development and adoption of regulations often occur over irregular time periods and compliance efforts can require considerable time. In general, EPA believes that the earliest practical time to assess compliance with the 3 percent average annual requirement will be the fifth year from the SIP call: 2 years for SIP development and submittal and 3 years for source compliance. Therefore, the State's annual progress report (discussed in section V.A.1) for 1992 (due in 1993) must show that creditable emission reductions of at least 15 percent (5 years times 3 percent per year) of the base year inventory have been achieved. Stated differently, the report for 1992 must show an average reduction of 3 percent per year from 1988 to the end of 1992. For example, an area needing emission reductions of 17 percent (beyond the reductions from measures listed above for the "marginal test") would have to achieve reductions of 15 percent by the end of 1992 and the remainder thereafter at an average rate of 3 percent per year until attainment (i.e., achieve the remaining 2 percent by the end of 1993). An area needing additional reductions of, say, 7 percent would be required to achieve those reductions by the end of 1992. Because of the possible unique circumstances of an individual area, EPA is soliciting comment on the need for and ways to provide additional flexibility in implementing the 3 percent requirement. For example, certain localities might be allowed a different averaging time to achieve the requirement, depending upon such criteria as their emissions inventory mix.

The EPA believes that VOC control measures (such as those described in Appendix C) are available for application in these long-term areas to meet this requirement. Although this may prove to be a very ambitious goal in some areas, EPA's review of past ozone SIP's indicates that those SIP's have included measures that were capable of achieving average annual reductions in

[34] As stated above in section IV.A., any area with a design value at or above 0.16 ppm for ozone or 17 ppm for CO must also implement an enhanced I/M program.

past emissions inventories of 3 to 4 percent.

For example, the previous SIP's for ozone extension areas contained RACT measures for stationary sources which would produce emission reductions mostly in the range of 10–15 percent. Implementation of these measures generally occurred over a 3- to 4-year period, resulting in average annual emission reductions of about 3 or 4 percent.

By not allowing measures required by EPA's pre-1987 policies to count toward the 3 percent reduction, EPA believes that the disparity in the past control efforts of different areas will be reduced significantly. The following example will illustrate this effect. An extension area that was required to implement the basic I/M program required by section 172(b)(11)(B) of the Act before 1987, did not do so, and cannot after 1987 demonstrate attainment of the standard within the 3-year period, could not count toward the 3 percent reductions from the portion of any post-1987 I/M program that corresponds to a basic I/M program. It could, however, count toward the 3 percent requirement any reductions achieved by enhancements of the I/M program beyond the basic program. Thus, such an area would achieve no advantage from its failure to adopt the basic I/M program required before 1987. The EPA believes that it is appropriate to recognize in this way the various levels of past State efforts and progress in defining the efforts that would be reasonable for an area after 1987.

Emission reduction requirements will not be identical, however, from area to area, because ozone nonattainment areas faced different control requirements before 1987. For example, nonextension areas that never received SIP calls were not required before 1987 to adopt RACT rules for sources in the third category of CTG's, while nonextension areas that received SIP calls in 1984 or 1985 did face such a requirement under EPA's 1984 guidance on the correction of Part D SIP's. Hence, the former areas will be able to count the reductions from such RACT rules adopted after 1987 toward meeting the 3 percent requirement, while the latter areas will not. Similarly, nonextension areas that did not receive SIP calls in 1984 or 1985 were not required to adopt a basic I/M program, while nonextension areas that received such calls and could not demonstrate attainment by the end of 1987 were required by EPA's 1984 guidance to adopt such a program. Thus, only the former areas will be able to count toward the 3 percent reductions from a basic I/M program adopted after 1987. Table 1 sets forth the minimum control measures and percent requirements for each type of area.

In the above demonstrations of attainment, the areas must account for any growth in mobile or stationary source emissions expected to occur between the base year and the attainment date. So long as federally-implemented measures continue to achieve a net emissions reduction, considering growth in sources subject to those Federal measures, the State will not be required to account for such growth in meeting the 3 percent requirement. However, States must account for all other source growth during this period. If reductions due to turndowns in production (or source shutdowns) are used to demonstrate attainment, or are used to meet the 3 percent annual reduction requirement, they must be submitted as SIP revisions and must be federally enforceable.

The EPA also intends to require areas that can demonstrate near-term attainment to show that their plans will provide for maintenance of the standards well into the future despite the emissions growth projected to occur. Plans for these areas must project future emissions out to at least 10 years from the SIP due date and must contain commitments and schedules for any additional measures that may be needed to ensure maintenance of the standards. This requirement will also apply to any other area with a projected attainment date before the end of 1995.

Areas projecting near-term attainment must include in their SIP a commitment that, if they do not actually attain the standard by their projected attainment dates, they will meet the 3 percent average reduction requirement, and adopt new CTG's (including any new CTG's issued since today's proposal), and implement enhanced I/M (if required), starting when EPA finds that the area continues to violate the standard after its specified short-term attainment date. These areas will also be subject to whatever additional future requirements EPA ultimately finds are needed for long-term areas to provide for expeditious attainment.

2. *Areas that Cannot Demonstrate Attainment Within the 3-year Period.* As described above, areas subject to the construction ban because they cannot demonstrate attainment of the standards by the end of the 3-year period set forth in section 110(a)(2)(A) will be able to avoid the additional discretionary sanctions if they demonstrate reasonable efforts to submit adequate plans. The EPA proposes to define such efforts as the submittal, according to the planning schedule described earlier, of a plan that will produce reasonable progress toward attainment by a fixed date suitable for the area. As described below, the "reasonable efforts" attainment date for each area will depend on the degree of progress that the plan will produce each year. For that reason, the discussion below focuses first on the amount of progress EPA will regard as reflecting reasonable efforts for each pollutant, and then on the attainment date that would reflect such efforts.

a. *Progress Requirements*—i. *Ozone.* For ozone, EPA proposes to define a "reasonable efforts" level of progress for an area as the percent reduction described above for nonmarginal short-term nonattainment areas, extended until the year attainment is projected. Thus, after an initial demonstration of at least a 15 percent reduction for the period 1988–1992, the area must show a 9 percent reduction (beyond the measures noted earlier) for each subsequent 3-year period until attainment.[35]

[35] Where attainment is projected to occur between 3-year projections, the 3 percent annual reduction is required to continue until the year in which attainment is projected. In that year, the balance of the required reduction (up to 3 percent) is due.

Where such long-term nonattainment areas implement a measure that is later implemented at the national level, the areas may take credit toward the 3 percent requirement until the federally-implemented measure is in effect. At that time, the areas would have to have achieved sufficient emission reductions so that they continue to meet the annual requirement to obtain 3 percent emission reductions beyond all federally-implemented measures. The EPA solicits comments on this approach and other options to address these situations. In particular, EPA invites comment on whether the State should be able to maintain the "credit" toward the 3 percent requirement even after a Federal measure is implemented which would supersede or duplicate the effect of the State measure. One option may be to allow the State this credit indefinitely except for those measures that EPA is currently implementing or has proposed as of the date of this notice. This option might also require the State measure to be implemented for a minimum amount of time before the Federal measure is effective in order for the "indefinite credit" to be allowed.

TABLE I.—SUMMARY OF OZONE AND CARBON MONOXIDE SIP REQUIREMENTS

Type of area	A Federally Prescribed Requirements Applicable Before 1987 and Therefore Not Creditable Toward Meeting Requirement in Column C (Assumes No Approvable Photochemical Dispersion Modeling Demonstration)	B Federally Prescribed Requirements Applicable for the First Time After 1987 and Therefore Creditable [A] Toward Meeting Requirement in Column C (Assumes No Approvable Photochemical Dispersion Modeling Demonstration)	C Requirement for Annual Average Emission Reduction of 3 Percent of Adjusted Base Year Inventory for MSA/CMSA Commencing in the Year of the SIP Call
I. Area that received section 172 extension and whose post-1987 SIP does not adequately demonstrate attainment within 3-year period in section 110(a)(2)(A).	*Ozone:* RACT for CTG I, II, and III and for major non-CTG sources, to be applied in designated ozone nonattainment areas. *Ozone nd CO:* Basic I/M program required by section 172(b)(11)(B).	*Ozone and CO:* Enhancements beyond basic I/M program (for areas with an urbanized population above 200,000).	Applicable.
II. Area with section 172 extension whose post-1987 SIP adequately demonstrates attainment within the 3-year period.	Same as above	*Ozone and CO:* Enhancements beyond basic I/M program only for areas above 200,000 urbanized population and at 0.16 ppm or above for ozone, 17 ppm or above for CO.	Applicable unless areas a "marginal non-attainment area". [B]
III. Nonextension designated nonattainment area (other than rural under old policy) that received a pre-1987 SIP call and did not receive EPA's approval of a demonstration of attainment by the end of 1987, *and* whose post-1987 SIP does not demonstrate attainment within the 3-year period.	Same as above (Basic I/M presumed required in EPA's 1984 guidance on correction of Part D SIP's for nonextension areas that did not demonstrate attainment by the end of 1987 without it).	*Ozone and CO:* Enhancements beyond basic I/M program for areas with urbanized population above 200,000.	Applicable.
IV. Same as III, but post-1987 SIP adequately demonstrates attainment within the 3-year period.	Same as above (per 1984 guidance).	*Ozone and CO:* Enhancements beyond basic I/M program only for areas above urban population above 200,000 and at 0.16 ppm or above for ozone, 17 ppm or above for CO.	Applicable unless area is a "marginal nonattainment area."
V. Nonextension designated nonattainment area (other than rural under old policy) that received a pre-1987 SIP call and received EPA's approval of a demonstration of attainment by the end of 1987, *and* whose post-1987 SIP does not demonstrate attainment within the 3-year period.	*Ozone:* RACT for CTG I, II, and III in designated ozone nonattainment area.	*Ozone and CO:* Enhanced I/M required for areas above 200,000 urbanized population with credit for entire program toward meeting Column C requirement.	Applicable.
VI. Same as V, but post-1987 SIP adequately demonstrates attainment within the 3-year period.	*Ozone:* Same as V	*Ozone and CO:* Enhanced I/M required only for areas above 200,000 urbanized population and at 0.16 ppm or above for ozone, 17 ppm or above for CO with credit for entire program toward meeting column C requirement.	Applicable unless area is a "marginal nonattainment area."
VII. Nonextension area designated nonattainment area (other than rural under old policy) that did not received a pre-1987 SIP call and whose post-1987 SIP does *not* adequately demonstrate attainment within the 3-year period.	*Ozone:* RACT for CTG I and II in designated nonattainment area (for all sources except that, where the area demonstrated attainment by 1982 without controlling non-major sources, RACT was required on major sources only).	*Ozone:* RACT for CTG III (and for non-major CTG I and II sources for which RACT was not required prior to 1987) in certain area.[C] *Ozone and CO:* Enhanced I/M required for areas above 200,000 urbanized population, with credit for entire program toward meeting Column C requirement.	Applicable.

TABLE I.—SUMMARY OF OZONE AND CARBON MONOXIDE SIP REQUIREMENTS—Continued

Type of area	A Federally Prescribed Requirements Applicable Before 1987 and Therefore Not Creditable Toward Meeting Requirement in Column C (Assumes No Approvable Photochemical Dispersion Modeling Demonstration)	B Federally Prescribed Requirements Applicable for the First Time After 1987 and Therefore Creditable [A] Toward Meeting Requirement in Column C (Assumes No Approvable Photochemical Dispersion Modeling Demonstration)	C Requirement for Annual Average Emission Reduction of 3 Percent of Adjusted Base Year Inventory for MSA/CMSA Commencing in the Year of the SIP Call
VIII. Same as VII, but post-1987 SIP adequately demonstrates attainment within the 3-year period.	*Ozone:* RACT for CTG I and II in designated nonattainment area (for all sources except that, where the area demonstrated attainment by 1982 without controlling non-major sources, RACT was required on major sources only).	*Ozone:* RACT for CTG III (and for non-major CTG I and II sources for which RACT was not required prior to 1987) in certain area.[C] *Ozone and CO:* Enhanced I/M required only for areas above 200,000 urbanized population and at 0.16 ppm or above for ozone, 17 ppm or above for CO with credit for entire program toward meeting Column C requirement.	Applicable unless area is a "marginal nonattainment area."
IX. MSA containing no designated nonattainment area, and whose post-1987 SIP does not adequately demonstrate attainment within the 3-year period.	None	*Ozone:* RACT for CTG I, II, and III in certain area.[C] *Ozone and CO:* Enhanced I/M required, with credit for entire program toward meeting Column C requirement.	Applicable.
X. Same as IX, but post-1987 SIP adequately demonstrates attainment within the 3-year period.	None	*Ozone:* RACT for CTG I, II, and III in certain area.[C] *Ozone and CO:* Enhanced I/M required only for areas above 200,000 urbanized population and at 0.16 ppm or above for ozone, 17 ppm or above for CO with credit for entire program toward meeting Column C requirement.	Applicable unless area is a "marginal nonattainment area."
XI. Non-MSA (rural) area designated nonattainment for ozone and shown to be self-generating.	RACT for major sources in CTG I and II in designated nonattainment area.	RACT for non-major sources in CTG I and II, all sources in CTG III in designated nonattainment area.	Applicable if post-1987 SIP does not adequately demonstrate attainment within 3-year period or if design value of.
XII. Non-MSA (rural) area designated nonattainment for ozone and shown to be nonself-generating.	RACT for major sources in CTG I and II in designated nonattainment area.	None	Not applicable.
XIII. Non-MSA (rural) area that is not designated nonattainment for ozone and that is shown to be self-generating.	None	RACT for CTG I, II, and III in SIP call area.	Applicable unless area is a "marginal nonattainment area."
XIV. Non-MSA (rural) area that is not designated nonattainment for ozone and that is shown to be nonself-generating.	None	RACT for major sources in CTG I and II in SIP call area.	Not applicable. 0.16 ppm or above for.
XV. Area designated rural nonattainment are under old policy and urban (MSA) under proposed policy which can adequately demonstrate attainment within 3-year period in post-1987 SIP.	*Ozone:* RACT for major sources in CTG I and II in designated nonattainment area (or other control area approved in Part D SIP).	*Ozone:* RACT for CTG III and for non-major CTG I and II sources in the central county(ies). *Ozone and CO:* Enhanced I/M required only for areas above 200,000 urbanized population and at or above 0.16 ppm ozone or 17 ppm CO, with credit for entire program toward meeting Column C requirement.	Applicable unless area is a "marginal nonattainment area."

TABLE I.—SUMMARY OF OZONE AND CARBON MONOXIDE SIP REQUIREMENTS—Continued

Type of area	A Federally Prescribed Requirements Applicable Before 1987 and Therefore Not Creditable Toward Meeting Requirement in Column C (Assumes No Approvable Photochemical Dispersion Modeling Demonstration)	B Federally Prescribed Requirements Applicable for the First Time After 1987 and Therefore Creditable [A] Toward Meeting Requirement in Column C (Assumes No Approvable Photochemical Dispersion Modeling Demonstration)	C Requirement for Annual Average Emission Reduction of 3 Percent of Adjusted Base Year Inventory for MSA/CMSA Commencing in the Year of the SIP Call
XVI. Same as XV, but cannot adequately demonstrate attainment within 3-year period in post-1987 SIP.	*Ozone:* RACT for major sources in CTG I and II in designated nonattainment area (or other control area approved in Part D SIP).	*Ozone:* RACT for CTG III and for non-major CTG I and II sources in the central county(ies). *Ozone and CO:* Enhanced I/M required only for areas above 200,000 urbanized population, with credit for entire program toward meeting Column C requirement.	Applicable.

[A] Except in areas that included these requirements in the portions of their SIP's approved on or before publication of today's notice.
[B] Defined as an area able to demonstrate near-term attainment with only (1) federally-implemented measures, (2) measures required for the area in EPA's pre-1987 guidance, and (3) the specifically identified and legally enforceable commitments and adopted measures in the portions of the area's SIP approved in today's notice.
[C] The controls are applied in the designated nonattainment area, or control area included in the previously approved Part D SIP, if applicable, for areas currently designated nonattainment under section 107 and previously designated areas now experiencing NAAQS violations. For newly found nonattainment areas, controls are applied in the "central" county.

Since future measures are expected to be increasingly more difficult to develop and implement, EPA believes that the lower end of this range (i.e., 3 percent per year) should be used in determining whether the State is making reasonable efforts. In addition, EPA believes that a requirement of less than 3 percent per year could result in unreasonably long-term attainment dates for some areas. Therefore, EPA will presume that an area is making reasonable efforts to provide for expeditious attainment (and reasonable further progress) if its SIP measures (not including the measures described earlier) will produce average annual emission reductions equal to 3 percent of the base year emissions. Once the Federal measures no longer provide a net benefit, all growth including that from sources affected by Federal measures, must be factored into the 3 percent requirement. Stated differently, long-term ozone nonattainment areas will need to demonstrate sufficient reductions to reduce their emissions inventories by the required percentage regardless of the amount of growth that occurs from all source categories. In high-growth areas, this could require reductions from existing sources greater than an average annual 3 percent, in order to compensate for new source (or vehicle) growth. The EPA solicits comments on whether it should alleviate the additional pressure that growth would create, by permitting States to use the expected reductions from the FMVCP to compensate for emissions growth while meeting their percent reduction requirement (as long as the FMVCP program and other Federal measures provide a net reduction).

Areas that cannot demonstrate attainment within the 3-year period in section 110(a)(2)(A) may seek to avoid the construction ban by demonstrating attainment within the extended period allowed by section 110(e). As indicated earlier, that section permits a 2-year extension of the attainment date only if:

(A) One or more emission sources (or classes of moving sources) are unable to comply with the requirements of such plans which implement such primary standard because the necessary technology or other alternatives are not available or will not be available soon enough to permit compliance within such 3-year period, and

(B) The State has considered and applied as a part of its plan reasonably available alternative means of attaining such primary standard and has justifiably concluded that attainment of such primary standard within the 3 years cannot be achieved.

It is clear that Congress intended to authorize EPA to consider the economic feasibility or reasonableness of the available means of attainment in making the judgment under paragraph (A). (If Congress had not intended to do so, no area would be eligible for the extension, since all areas can attain the standard within 3 years simply by shutting down all economic activity.) Therefore, EPA interprets paragraph (A) to require only a showing that the implementation of the "reasonably available alternative means" (RAAM) described in paragraph (B) would not bring about attainment within 3 years. Paragraph (B), then, would provide assurance that those reasonably available means are indeed implemented to achieve progress within the 3-year period.

Therefore, an area will be eligible for the 2-year extension if it demonstrates that it is actually implementing the RAAM within the 3-year period and that it still cannot attain within that 3-year period. The area then would not be subject to the construction ban if it could then demonstrate attainment in the 2-year extension period. The EPA proposes to define the RAAM as the set of prescribed measures and the emission reduction percentage that are also applicable to other long-term ozone nonattainment areas.

ii. *Carbon Monoxide.* For long-term CO nonattainment areas, EPA proposes to define "reasonable efforts" as two sets of measures—one for hotspots and one for areawide problems.

For hotspots, defined for these purposes as localized problems with localized solutions (such as traffic changes at the hotspot locations), EPA will require the State to include in its SIP revisions enforceable commitments (1) to implement the localized solutions for all currently known hotspots by the end of the 3-year period and (2) for all hotspots identified for the first time within that period or thereafter, to implement the localized solutions within 3 years of the identification.

For areas that have areawide CO problems, EPA proposes to define "reasonable efforts" as, in addition to

any hotspot requirements that may apply, the average annual emission reduction described above for long-term ozone nonattainment areas. Although past CO SIP's have relied primarily on the FMVCP to reduce emissions by this range of annual levels, EPA believes that additional measures are potentially available at reasonable cost for application in these long-term areas. A list of available measures that States should consider in deciding how to meet the percent reduction requirement appears in Appendix C.

As discussed above for ozone, States should develop their control strategies so that the minimum 3 percent reduction starts as early as possible and occurs at a continuous rate until attainment is achieved. But, for the same reasons discussed above for ozone, the earliest practical date to assess compliance with the reduction requirement will be in 1993 (for the year 1992). States will be required to achieve creditable emission reductions of at least 15 percent (an average of 3 percent over the 5-year period of 1988–1992) by the end of 1992. Thereafter, States must achieve reductions of at least 9 percent every 3 years until attainment.

The EPA is considering, however, whether it may be appropriate to require a lesser reduction from long-term CO nonattainment areas (perhaps especially in the period shortly after the SIP revision is due). In contrast to the case for ozone, these areas will not be able to rely significantly on stationary source control measures to supplement TCM's as a means to meet the requirements. Most CO nonattainment problems result almost exclusively from automotive pollutants. Thus, it may be more difficult for CO nonattainment areas than for ozone nonattainment areas to meet a 3-percent reduction requirement (in addition to offsetting growth), at least in the short term. The EPA solicits comments especially on how to assure that local areas aggressively continue to implement reasonably available local controls while not requiring more control than can or needs to be achieved, i.e., is 3 percent most appropriate or is another level or approach more appropriate?

So long as federally-implemented measures continue to achieve a net emissions reduction, considering growth in sources affected by those Federal measures, States will not be required to account for such growth in meeting the 3 percent requirement. However, States must account for all other source growth during this period. Once the Federal measures no longer provide a net benefit, all growth must be factored into the 3 percent requirement. The EPA solicits comment, however, on whether it should alleviate the additional pressure that growth could create, by permitting States to use the expected reductions from the FMVCP to compensate for stationary source emissions growth in their percent reduction calculations.

As in the case of ozone, EPA will use the requirements for long-term areas, described above, as its definition of "reasonably available alternative means," for the purpose of its decisions on whether to grant extensions to CO nonattainment areas under section 110(e).

b. *Attainment Dates.* The attainment dates that EPA believes will reflect "reasonable efforts" for long-term ozone and CO nonattainment areas are the dates on which attainment of the relevant standard is projected to occur if the required level of progress is achieved.

Thus, the applicable "reasonable efforts" attainment date for an area will turn on the percent reduction required. As a simplified example, if an area needs a 50 percent VOC emission reduction to attain the ambient standard and if national measures (e.g., FMVCP, RVP, onboard) will provide reductions of 20 percent, the area must achieve a net emission reduction (accounting for growth) of 30 percent. Assuming the minimum required rate of progress of 3 percent per year, the area must show that its strategy will provide for attainment within 10 years of the base year (30 percent reduction divided by 3 percent reduction per year).[36] Procedures and a worksheet for calculating the attainment date are in Appendix K. For areas demonstrated to be limited to CO hotspot problems and their solutions, the attainment date is the date (presumed to occur within the 3 year period) by which all necessary hotspot control measures will be implemented.

C. *Measures Selected by the State.* States are required to select such measures as will allow their nonattainment areas to attain by the required date as discussed in section IV.B. and to show the required expeditious progress in the interim. There are conceivably a variety of different control programs which could achieve this requirement. The discussion below addresses some issues that are likely to arise as the States study and select control measures after 1987.

[36] Provided that the federally-implemented measures produce the 20 percent reduction within the same 10-year period.

1. *Stationary Source Control Measures.* The EPA has prescribed RACT requirements for the Group I, II, and III CTG sources discussed in section IV.A. and previously approved SIP's may have included additional stationary sources control obligations (as shown in Table I). Rather than specifically prescribe yet additional control requirements needed, this policy requires an average 3 percent reduction in emissions per year for many areas, as described in section IV.B.

In order for an area to show the required 3 percent reduction, it may be necessary for stationary source controls beyond those specifically required by EPA to be adopted. In areas that exceed the ozone standard by a wide margin, it seems almost a certainty that new stationary source control measures will have to be incorporated into the SIP.

Stationary sources fall into two types: (1) Point sources and (2) area sources. States will have to evaluate what stationary sources in affected areas are present and not already covered by EPA requirements. Table C–1 in Appendix C gives a list of various types of stationary point sources which are not covered by CTG's. Appendix C also contains titles of some technical reports written by EPA which may be of help to States as they evaluate non-CTG source control. The Table C–1 list could be a good starting point for States to use in evaluating where emission reductions can be made through stationary source control. However, this list is neither exhaustive nor prescriptive, and each State should examine its own emission inventory to identify stationary point sources that may be suitable for control.

Area sources can give rise to VOC emissions which, in some locations, may be as large or larger than point sources. However, area sources are often not addressed in control programs and have not been controlled in many locations in the past.

Area sources are emission sources that are relatively small taken individually, but in the aggregate are large, because there are large numbers of these sources scattered throughout the area. An example would be architectural coatings. Thousands of homeowners in an urban area may each use a few gallons of paint per year. Individually, each user's VOC emissions are small, but taken together, because of the large number of individual users, emissions could be relatively large. Table C–1 in Appendix C lists some important area sources that States should consider controlling for large VOC reductions. One item on the list which may need explanation is

"consumer solvents." This term covers solvent emissions from common household items such as aerosol paints from small spray cans, hair spray, cleaners, insect sprays, polishes, waxes, deodorants, and many other common items. Control measures to reduce VOC emissions from these items would probably entail reformulating the product so that it contained less VOC, perhaps by making it as a waterborne product.

For stationary sources, in order for emission limiting regulations and control measures to be properly adopted, the regulation or measure must meet the requirements for public hearing, be adopted by the appropriate board or authority, and establish, by regulation or permit, a schedule and date for each affected facility to achieve compliance.

2. *Air Toxics/Ozone Policy Interface.* Ozone SIP development has significant relevance to important nationwide efforts currently under way for the control of toxic air pollutants. This is in part true because both programs are concerned with many of the same sources and are being implemented in large measure by the States and local agencies. For these and other reasons (stated below), EPA is proposing a policy which stresses that the development of ozone SIP's should, wherever possible, incorporate measures that reflect air toxics controls.

Air toxics present a complex national problem resulting from numerous and diverse sources. A large potential problem is believed to exist from the mixture of sources and toxic pollutants present in most major urban areas that are also nonattainment for ozone.

Under EPA's National Air Toxics Strategy, released in June 1985, the Administrator stressed the importance of using all available existing authority to address the air toxics problem. One of the principal existing authorities envisioned for use under the strategy is that contained in section 110 of the Act governing SIP development, since it had proven in the past to be effective in limiting the aggregate risk to the public. Based on previous estimates within EPA's 6-month study,[37] particulate matter and VOC SIP actions are believed to have reduced the aggregate risk from 16 different toxic pollutants by about 50 percent during the period from 1970 to 1980. A follow-up study suggests that additional reductions of 25 percent and more would result from new SIP control activities. Many of the same sources causing the ozone problem will be of concern in evolving State air toxics programs. Thus, for reasons of regulatory effectiveness, administrative efficiency, and good sense the development of ozone SIP's and State air toxics control programs should be well coordinated in their timing and substance.

Toxics and ozone control programs should be coordinated at various levels. First, State and local programs will be encouraged to develop and implement a toxics component in their ozone plans on their own initiative. This is conducive to efficient air quality management because, as stated above, the ozone and toxics efforts address many of the same sources. Second, EPA can promote the adoption of toxics measures through the way it reviews SIP's. This can take the form either of discouraging proposed provisions that are counterproductive to toxics control or of encouraging productive measures as part of general determinations of whether "reasonable efforts" are being made. Third, EPA will consider air toxics concerns in its own actions relative to ozone SIP development. These actions include the possible development of any nationally presumptive VOC control measures or promulgation of any measures under section 110(c) of the Act. Finally, increased attention can be paid in nonattainment new source review permitting under Part D of the Act to reflect an intended consideration of air toxics.

The EPA is in the process of examining a variety of potential strategies for reducing air toxics in the context of VOC control and estimating the payoff associated with these various potential SIP measures. This should assist State and local agencies in not only maximizing total environmental benefit of the VOC control strategies selected but also in avoiding control measures that are counter-productive. The EPA intends that this initial guidance be available in time to facilitate implementation of the policy on ozone and air toxics as articulated above. The EPA solicits comments on what this guidance should consist of and on the contents of today's proposed policy for coordinating air toxics control and ozone SIP development.

3. *Transportation Control Measures.* In many cities exceeding the ozone NAAQS, mobile sources make up one-half or more of the VOC emissions. The CO nonattainment problem is almost exclusively related to mobile sources. The EPA recognizes that many cities are experiencing high rates of growth in overall VMT, which will overcome reductions from the FMVCP and I/M programs in the near future. In a few cities with extremely rapid growth, this event has already occurred. The EPA believes that many metropolitan areas will, of necessity, evaluate and select for the control strategy, transportation measures capable of offsetting the effects of such growth in the future to the extent necessary to provide for attainment and maintenance, and to meet the required rate of progress.

a. *Requirements for Adoption of Transportation-Related Control Measures.* Emission reductions from the transportation sector range from short-term measures that can be developed and implemented over a few months or a couple of years and with limited intergovernmental coordination, to measures that involve very complex planning and extensive political processes. The latter measures are generally referred to as "long-term" measures. These long-term measures will generally be more difficult to implement, have higher social impacts, and therefore have a greater degree of public interaction. In certain cases, some of these measures (e.g., tax disincentives and vehicle restrictions) could be implemented in the short-term; however, the States may choose to implement these measures later in their long-term strategies due to the high social impacts. In other cases, it may take a long time to develop these measures conceptually, develop the technical details, and secure the necessary funding (e.g., major mass transit projects). While the States may choose measures as long-term measures for these noted reasons, EPA believes that for the SIP strategy to be credible and approvable, there must be at least some minimum "form of adoption" for these long-term measures. This adoption may be somewhat different from that of the short-term measures that have implementation commencing in the immediate future. However, the long-term measure adoption must be sufficiently binding on the State to assure that the identified measure will in fact be implemented according to the schedule approved in the strategy.

Transportation control measures are to meet the following criteria in order to be considered as properly adopted. The SIP must contain the following:

(1) A complete description of the measure and its estimated emission reduction benefits must be provided;

(2) Evidence that the measure was properly adopted by the jurisdiction(s) with legal authority to commit to and execute such program (e.g., Attorney General's certification of adoption);

[37] The Air Toxics Problem in the United States: An Analysis of Cancer Risks for Selected Pollutants. U.S. EPA. May 1985.

(3) Evidence that funds to implement the measure are obligated or on an acceptable schedule;

(4) Evidence that all necessary approvals have been obtained, from all appropriate governmental entities, including State Highway Departments where applicable;

(5) A schedule for completion of planning, engineering, development, start of construction, if applicable, and for start of operation which has been adopted by the implementing agency in an appropriate enforceable form; and

(6) A description of the monitoring program to assess the effectiveness of the measure and to allow for in-place corrections or alterations to obtain the full effectiveness.

As noted above, EPA believes that for some areas to attain the ozone or CO standard, certain additional measures will be required, over and above those now commonly accepted as implementable in the short term. In previous SIP submittals, EPA has accepted commitments from States to study various control scenarios, with the condition that the State submit a future SIP revision describing the results of its study and adopting a particular control measure or measures to adequately demonstrate attainment. Such "open-ended" study programs have rarely resulted in adopted control which has contributed to the emissions reductions shortfalls that have prevented these areas from achieving attainment.

The EPA proposes today that, for areas needing long-term measures (including, but not limited to, TCM's) to demonstrate attainment of the NAAQS, such SIP revisions must contain "adequately adopted" programs to ensure that commencement of implementation of those measures occurs in the most expeditious manner practicable. The EPA recognizes that not all areas needing such long-term measures will be able to complete all of the necessary and required activities and processes associated with such long-term measures by the due date of the initial SIP. Therefore, for those areas requiring long-term measures to demonstrate attainment but that cannot fully complete the adoption process associated with such measures in the first 2 years, EPA will allow a two-phase adoption process. The initial SIP must identify the long-term measures, estimate their expected emissions reduction benefit, describe the various processes to complete all planning, funding, and review by the various agencies and organizations involved, define the decision steps leading to adoption, and provide a schedule and commitment for completion of adoption of these measures.

The second phase of the adoption process will require that the measure be submitted to EPA in "final adopted" form, in the most expeditious manner but no later than 3 years after the initial SIP is due (see Section II, Planning Schedules). In addition, this second submittal is to provide a final schedule for the implementation of the previously selected measure(s) described in the initial SIP.

If the States fail to carry out their adoption process with respect to these measures, EPA will consider that the State is not making reasonable efforts to develop a plan which provides expeditious attainment and the State, therefore, may be subject to additional sanctions.

The EPA recognizes that some of these long-term measures may not actually be scheduled for implementation until well into the future. However, given the overall emission reduction targets for some of these areas and the lead times required to implement such measures, EPA believes that requiring this "up-front adoption" from the State will provide some additional assurances that the air quality standards will be achieved in a manner consistent with the demonstration.

In subsequent rounds of demonstrations (every 6 years) when a new demonstration is made, there may be an opportunity to revise the measures and provide additional detailed information and milestones regarding the implementation of those measures. Any modifications to the strategy must ensure that the required annual emission reductions are achieved.

D. *Role of Nitrogen Oxides (NO_x).* The efficacy of VOC and NO_x controls depends on the relative amounts of each pollutant in the atmosphere. If there is a lot of VOC and little NO_x ozone can be reduced by controlling the limiting ingredient (NO_x). Relative amounts of VOC and NO_x are expressed as the NMOC/NO_x ratio. The higher the ratio, the more likely NO_x controls are to be beneficial. In some cases (photochemical grid models), this ratio is derived from inventories and meteorological inputs. In others (EKMA model), it is derived from measured data. There is considerable uncertainty attendant to both approaches. The EPA has been conducting special, limited duration studies for the past 3 years in which NMOC/NO_x ratios were measured. Although there is wide variability in the data, typical ratios appear to be about 12:1. This value is in a range where NO_x controls, in addition to VOC reduction, could be useful in reducing ozone under some conditions. Evidence suggests that each city can be characterized in terms of a "critical" NMOC/NO_x ratio above which control of NO_x may be beneficial in reducing ozone. Based on currently available information, EPA believes a critical ratio may be about 10:1. Therefore, recognizing this potential for NO_x controls to contribute in an ozone attainment strategy, EPA proposes to require post-1987 ozone SIP's to evaluate the effectiveness of locally-implemented NO_x control where the median ambient NMOC/NO_x ratio is equal to or above 10:1. Below this ratio, benefits of reducing NO_x in addition to VOC are less likely. Of course, States may still evaluate NO_x controls at ratios below 10:1, even though EPA does not require the evaluation.

The effectiveness or advisability of NO_x reductions could be assessed to determine their ability to (1) expeditiously reduce peak ozone, (2) work effectively with VOC measures needed to attain the NAAQS, and (3) reduce population exposure to ozone. Guidance describing the technical requirements for the evaluations is contained in "Consideration of NO_x Control in Ozone SIP's," EPA, Sept. 1987 (Draft).

Upon completion of the evaluation, States may proceed to identify and, if appropriate, implement NO_x measures which will supplement VOC controls and produce attainment of the ozone NAAQS. The EPA will require States implementing NO_x measures to determine a minimum rate of NO_x emission reduction which will result in attainment as expeditiously as a VOC-only strategy.[38] Then, the VOC annual reduction requirement may be adjusted such that the VOC strategy achieves reductions at a uniform rate from the date of the SIP call to the attainment date previously determined by the VOC-only strategy. The procedure for this is included in the proposed Policy Statement at the end of this notice.

The EPA's present policy allows NO_x controls to supplement VOC strategies in certain cases. However, because certain VOC RACT controls are required (see Table I) as assurance of

[38] For determining compliance with this rate, EPA will not require States to account for growth in sources affected by federally implemented NO_x measures (i.e., FMVCP) so long as these measures continue to achieve a net emission reduction considering the effects of such growth. However, States must account for all other sources growth during this period. After this period, all growth must be considered in determining compliance with the rate.

attainment (in recognition of the uncertainties associated with the EKMA modeling demonstrations) substitution of NO_x control for the required VOC RACT controls is not allowed unless supported by a rigorous demonstration using photochemical grid modeling. The EPA will continue this policy.

E. *Control of Transported Ozone and Precursors*—1. *Northeastern States.* The EPA recognizes that the phenomenon of multi-day transport of ozone and its precursors in the northeastern States significantly complicates efforts of individual States to develop strategies to attain the ozone NAAQS. With a nearly continuous string of closely located urban areas spread over extended distances and political boundaries, this portion of the country will ultimately need a regionwide analysis to determine the collective adequacy of various State control strategies.

Northeastern States need information to estimate inbound ozone and precursors when they use urban scale models, and to evaluate the effects of both regional and combined urban ozone control strategies on regional ozone and precursor levels. Applications of the EPA-developed ROM and subsequent interpretation of the results will provide this information. However, due to the need for the development of a regional emissions data base and multiple strategy assessments, the ROM results will not be available until after the upcoming SIP revisions are due.

Section 110(a)(2)(E) requires each SIP to contain provisions adequate to prohibit emissions from stationary sources in the State that would "prevent attainment or maintenance by any other State" of any standard. For the reasons described in the section entitled "Affected Areas," EPA believes that States must account for the emissions contribution of attainment areas located within a CMSA (or MSA) to nonattainment problems within the same CMSA (or MSA).[39] This is required even where the attainment areas lie across the State border from the nonattainment areas within the CMSA (or MSA). To ensure this, EPA will issue SIP calls for all counties within the CMSA (or MSA), as well as non-MSA counties adjacent to the CMSA (or MSA) that are experiencing violations of the standard. These contributing areas will be required, through the planning process described earlier in this notice and the use of acceptable urban scale models, to show that their emissions controls are adequate to meet the requirements of section 110(a)(2)(E).

The EPA believes that the planning requirements for CMSA's (or MSA's) and adjacent non-MSA counties will satisfy the requirements of section 110(a)(2)(E) to the extent allowed by current urban scale modeling capabilities. These requirements, which focus on reducing emissions from CMSA's (MSA's) and adjacent nonattaining non-MSA areas, will address a majority of emissions contributing to ozone concentrations produced and transported within the northeast region (see discussion below).

Moreover, EPA believes that until the ROM effort is concluded, the Agency cannot determine the impact that these emissions have on multi-day transport of ozone and its precursors. Current information on such transport is insufficient to support a finding under section 110(a)(2)(H) that the SIP's for areas outside those covered by today's proposal are substantially inadequate to meet the interstate transport safeguards in section 110(a)(2)(E). See 49 FR 48152 (December 10, 1984) and 49 FR 34851 (September 4, 1984), for a more detailed discussion of EPA's interpretation of section 110(a)(2)(E).

Thus, while EPA recognizes that ROM results will be very helpful and ultimately necessary in determining the relative contributions of transported pollutants to ozone exceedances, EPA does not propose to allow a delay in the submittal of the post-1987 ozone attainment demonstrations and revised SIP's for areas affected by ROM.[40] The EPA believes the Act requires that attainment demonstrations be made using currently available models and data. This means that States must use urban-scale models, with appropriate assumptions of future transported ozone and precursors, based on recent experience, to provide city-specific SIP reduction targets. (Procedures for estimating present and future transported levels of ozone and precursors for use in the EKMA analysis are contained in the revised EPA guidance documents "Guideline for Use of City-Specific EKMA in Post-1987 Ozone SIP's" and "Consideration of Transported Ozone and Precursors in Regulatory Applications.") This urban-scale analysis must be submitted with the initial SIP. The EPA expects that implementation of control strategies designed to meet these urban-scale targets will substantially reduce local ozone and precursor levels and, in turn, will reduce transported ozone and precursor levels downwind. Whether these combined urban strategies are adequate to produce attainment must subsequently be tested in more refined demonstrations once the ROM results are available.

One of the issues concerning transport in the Northeast is whether to include upwind attainment areas in regional control strategies. These areas are believed by some to be a significant contributor to downwind transport. To assess the potential contribution of these areas to region-wide emissions (and to multi-day transport problems), EPA compared the emissions in a 13-State region [41] to the emissions of the MSA's/CMSA's within this area. Of the 5.9 million tons of VOC in the 13-State area, 75 percent are emitted in MSA's or CMSA's subject to this proposed policy. An additional 10 percent of the total emissions are from mobile sources in attainment areas in the 13-State region. These mobile sources are, or are expected to be, controlled by Federal measures (FMVCP, RVP, and onboard) which EPA intends to continue or to promulgate. Therefore, a substantial portion (85 percent) of the VOC emissions in the 13-State Northeast region would be affected by this policy.

Transport directly affecting downwind cities on the afternoon of the same day it was generated is primarily limited to a 100-mile range. The EPA also conducted a review of emissions in this smaller region. Within the 100-mile range of the MSA's (or CMSA's) located in the Northeast "corridor" (generally, cities along the coast), EPA's review indicates that nearly all (95 percent) of the emissions in this smaller region are affected by this policy. This is because the emissions in this smaller region are either (1) in an MSA (or CMSA) measuring nonattainment, (2) in a nonattainment area in the 100-mile range, or (3) come from mobile sources controlled or to be controlled by Federal measures.[42]

[39] References to emissions in this section in a CMSA (or MSA) also include all 100 tons per year stationary sources within 25 miles of the CMSA (or MSA) boundary.

[40] To aid in the development of regional strategies using results of the ROM analysis in the Northeast (ROMNET), EPA is proposing a State/EPA advisory committee. The committee would consist of senior EPA and State management. The EPA expects this committee to (1) coordinate with the ongoing ROMNET programs, (2) upon completion of the ROMNET analysis assist in selection and testing of the effects of regionwide control strategies in the development of urban scale plans, (3) help manage conflicts, and (4) review appropriate technical and policy guidance.

[41] Ohio, West Virginia, Maryland, Delaware, New Jersey, Pennsylvania, New York, New Hampshire, Connecticut, Rhode Island, Maine, Massachusetts, Vermont, and District of Columbia. Source of emissions data, 1980 National Acid Precipitation Assessment Program (NAPAP).

[42] See "Consideration of Transported Ozone and Precursors" for draft recommendations concerning

Continued

If the ROM analysis indicates that further emission reductions are needed from sources in areas outside MSA's and CMSA's covered by today's proposal, EPA will use its authority under section 110(a)(2)(H) to call for SIP revisions to achieve those reductions. Where emissions from stationary sources in one State are found to prevent attainment in another State, EPA will require the upwind State to address those emissions. Although section 110 contains no comparable provision to address interstate transport of mobile source emissions, EPA will use its authority under section 110(a)(2)(B) to require States to address mobile source emissions affecting nonattainment problems elsewhere within their own borders and Title II of the Act to address other mobile source emissions as appropriate.

2. *Other Areas Affected by Transport.*[43] The EPA considers the transport problem in other areas to be generally of a single-day phenomenon and confined to a smaller scale and to involve fewer States and cities than the Northeast problem. In addition, EPA's proposed requirement that the planning area be the MSA/CMSA is intended to address many of these situations involving smaller scale transport. Therefore, EPA believes that transport in these areas will be handled successfully by a combination of a broader planning area and urban-scale models, such as EKMA and Urban Airshed. While EPA does not anticipate the need for a regional model in areas outside the Northeast region at the present time, EPA clearly does not intend to discourage the development of more refined analytical tools which can be used in long-term nonattainment areas in subsequent rounds of nonattainment demonstrations.

F. *Accounting for Growth.* The EPA believes that one important reason for continued nonattainment problems is that the growth in emissions from new and existing sources was not accounted for in earlier plans and that control requirements have been less effective (than planned) in limiting or mitigating the increases. This growth, if not mitigated in the future, could significantly impede future attainment of the ambient standards.

The post-1987 ozone and CO plans must contain provisions adequate to ensure that future growth will be accounted for and reasonable further progress is maintained.[44] At least two options exist for addressing emission increases from major new sources or existing major source modifications: (1) Require emission increases to be offset with decreases at other sources, or (2) allow strategies to provide margins of growth (i.e., growth accommodation) by controlling beyond the federally-prescribed measures and other measures already needed to show reasonable further progress. Although an emissions offset program may provide more direct control over emissions growth at these sources, EPA believes that areas still subject to Part D of the Act are entitled specifically by virtue of section 173(1) to choose between an offset program and a control strategy which provides a growth accommodation for emission increases. In addition, EPA believes that the post-1987 nonattainment policy should establish consistent requirements for all areas to the extent they are consistent with the language and purposes of section 110 and Part D. Therefore, EPA is proposing to allow all States including those subject to section 110 [and, specifically, section 110(a)(2)(D)] to choose between these two approaches for addressing future emissions growth.[45] If the State chooses to provide a growth allowance for new or modified sources, it must describe in detail its tracking and recordkeeping procedures to manage such growth.

States may also decide on the approach for addressing growth from minor or area sources. An offset program for minor point sources or additional control measures to accommodate growth from minor point sources or area sources could be used to ensure that RFP is maintained. Where a State has an indirect source review program, it may be a useful tool for evaluating growth.

On a related matter concerning emissions growth in designated attainment areas and unclassifiable areas,[46] EPA is proposing to discontinue its practice of allowing statewide adoption of RACT as a substitute for preconstruction monitoring required under the Agency's prevention of significant deterioration program (PSD). In the past, EPA has allowed States to adopt RACT on a statewide basis instead of requiring preconstruction monitoring for VOC sources subject to PSD. The EPA now believes that this RACT option was an inadequate substitute for the knowledge gained from preconstruction monitoring. In addition, in some cases, this policy was also used inappropriately for sources subject to nonattainment requirements. As a result, this policy allowed some sources to avoid the offset requirement. In either case, EPA proposes to no longer allow such substitutions.

In addition, EPA proposes to extend the requirement for case-by-case offsets (or a growth allowance in an approved SIP) to major new sources and modifications to be located in self-generating rural ozone nonattainment areas. In its past policies (e.g., 44 FR 20372, April 4, 1979), EPA allowed such construction in all rural ozone nonattainment areas without meeting that requirement. The EPA now believes, however, that rural areas shown to contribute significantly to their own ozone problems should be treated, for purposes of the offset/growth allowance requirement, the same as urban ozone nonattainment areas. The EPA proposes to retain its policy of not applying that requirement in nonself-generating rural ozone nonattainment areas for the reasons discussed in its previous policy notices.

The EPA believes that additional emission reductions are achievable through the NSR/PSD programs. States may wish to consider measures which could obtain further control of emissions from new sources or modifications to existing sources as one way to address long-term growth in sources and their emissions. A list of possible new source review measures that States may wish to consider is contained in Appendix C.

G. *Adoption of Enforceable Regulations*— 1. *Legal Authority.* The requirements for a State to document its legal authority with regard to the adoption, enforcement and recordkeeping requirements for stationary source emission regulations have been previously established through EPA policy and regulations [see 40 CFR 51.340 (1987)]. However, with transportation-related control measures, there is less certainty on what would constitute an adequate adoption. As discussed in Section IV.C., many States will likely have to consider the adoption and implementation of various transportation-related measures in order to demonstrate attainment of the ozone or CO air quality standards. These measures must be adopted and

considerations of transport in the absence of regional scale modeling.

[43] This policy does not specifically address situations involving international transport. The EPA intends to address such situations through separate **Federal Register** notices involving the affected areas.

[44] When NO_x control is part of the ozone strategy, NO_x emissions must be accounted for in accordance with the provisions of this subsection.

[45] Of course, the construction ban on major source growth will continue in a nonattainment area until its SIP demonstration provides for attainment within 3 years of EPA's approval of its plan.

[46] Areas where sufficient monitoring has not been available to determine whether the area is nonattainment or not.

implemented under adequate legal authority, if they are to be successful. Of particular concern are those neighboring States with a common MSA/CMSA that need to have compatible legal authority in order to implement TCM's across the entire MSA/CMSA boundary. Therefore, EPA proposes to require that the SIP revision contain the Attorney General's opinion regarding the State's legal authority with respect to the adoption, implementation, and enforcement of transportation-related control measures.

2. *Public Participation.* The plan requirements set forth in this Policy Statement will require some nonattainment areas to evaluate and adopt a number of longer-term control measures that may depend for their creation on an extensive and complex planning and implementation process.

Certain Appendix C measures, such as road pricing (tolls) and the use of alternative fuels, could fall into this category if implemented on a broad enough scale. The SIP's containing measures that impact a broad segment of the public such as auto commuters should result from a process that effectively involves the public and other affected interests. This is especially important when one considers that voluntary compliance is needed for many of these transportation programs to be effective. For these reasons, EPA urges the State and local planning agencies to begin their public participation activities as soon as practicable.

The Clean Air Act Amendments of 1977 clearly emphasize the need for public and elected official input to SIP development. Section 172(b)(9) requires public involvement and consultation. This section requires nonattainment plans to: "* * * evidence public, local government, and State legislative involvement and consultation in accordance with section 174 and include (a) an identification and analysis of * * * plan effects and alternatives considered by the State; and (b) a summary of the public comment on such analysis." Sections 110 and 172(b)(1) of the Act require a "reasonable notice and public hearing" prior to adoption and submittal of the SIP. Additionally section 108(e) directs the EPA Administrator to issue guidance "from time-to-time" on methods to assure public involvement in all phases of the planning process funded by section 175, and "such other methods as the Administrator determines necessary to carry out a continuous planning process." Although the procedures in section 112(b)(9) and 174 literally apply only to areas still subject to Part D, these requirements provide a good indication of the type of planning procedures Congress likely would have envisioned for post-Part D planning in areas no longer subject to Part D. Thus, using a combination of its authority under section 108(e) and the requirement of sections 110(a)(2)(J) and 121 that SIP's reflect a satisfactory process of consultation between States and local governments, EPA intends to apply the criteria in these Part D provisions and related EPA guidance to verify the adequacy of public participation in the SIP development process even in areas no longer subject to Part D.

The goal of agencies engaged in the SIP revision process should be to achieve and maintain widespread public awareness and consensus on the nature of the air quality problem and agreement on the implementation of reasonably available controls necessary for its solution. The objectives supporting this goal are:

(a) To assure that the public and elected officials understand the: (1) Public health and welfare dangers of air pollution, (2) the nature of the SIP revision process and the role of the public and officials in it, and (3) the nature and impacts of TCM's and their relationship to other attainment strategies;

(b) To encourage active involvement of a broad range of interested and affected constituencies in the SIP revision process;

(c) To assure public understanding and agreement on needed reasonably available transportation air quality measures;

(d) To assure that interested and affected constituencies are identified, informed, and consulted before decisions are made that significantly affect the public;

(e) To assure that EPA and elected officials consider and are responsive to the concerns of these constituencies when making such decisions; and

(f) To foster a spirit of openness and mutual trust among responsible agencies, elected officials and the public, thereby establishing and maintaining the legitimacy and credibility of the SIP revision process.

Detailed guidelines for developing a public participation plan are given in "Public Participation in the State Implementation Plan Transportation Revision Process: Expanded Guidelines," June 23, 1980 (45 FR 42023). Also, guidance for public hearings is given in 40 CFR 51.102 (1987), which, to the extent applicable, should be used for the post-1987 SIP revisions.

The SIP should provide information on which units of government will take action or certify that these governmental units have the responsible authority to carry out the task with which they are charged.

Under sections 172(b)(10) and 174 of the Act, the SIP may provide that local governments or regional agencies rather than the State itself are responsible for implementing and enforcing particular plan provisions. The EPA presumes that this is one of the elements of Part D that Congress would intend EPA to apply [under sections 108(e), 110(a)(2)(J), and 121] for post-1987 planning in areas subject only to section 110. Where local entities play this type of planning role, (1) the plan provisions must still be adopted by the State and submitted to EPA by the Governor, (2) the State must evidence its determination that the local or regional body has legal authority to implement the provision, and (3) the local or regional body must evidence its commitment to implement and enforce the plan elements. For some elements, such as inspection/maintenance provisions, item (3) will also require a certification by the local or regional body that it has adopted necessary ordinances or other legislative authorization.

Actions by many agencies and elected officials are usually required before a transportation project is implemented The SIP should list the important actions, the agencies or officials required to take each action, and the schedule that will lead to implementation.

Where feasible, the lead planning agency shall be the metropolitan planning organization (MPO) designated to conduct the continuing, cooperative, and comprehensive transportation planning process for the area under section 134 of Title 23, United States Code, the organization responsible for the air quality maintenance planning process under regulations implementing section 174 of the Act, or the organization with both responsibilities. The lead planning agency is usually charged with obtaining the various commitments. This requires:

(a) Identifying all remaining actions and the agency or official responsible for each action, and

(b) Consulting with each agency or official to establish the date when the action will be taken.

The product of these efforts should be submitted in the SIP.

3. *Form of Emission Limits for VOC.* Emission limits have usually been expressed as rate units, often in terms of weight of emissions per unit of

production. For example, VOC regulations for coatings are often expressed in terms of pounds of VOC per gallon of coating (less water). The EPA has generally not required a limit on production (e.g., hours of operation or plant capacity) or, in the case of coatings, on the number of gallons which may be used. Such rate-only emission limits produce a qualitative reduction in VOC emissions in that, as long as production remains constant, emissions are reduced. However, if production increases, emissions may increase despite meeting the rate limit, although emissions will certainly be lower than they would have been if no emission limitation at all had been required. The EPA is considering whether it would be desirable to require States to use the emissions projected in the demonstration of attainment as enforceable mass emission caps. The EPA solicits comment on this issue.

If a State chooses to adopt an emission "cap type" limit, this should only be done in addition to a "rate type" emission limit based on emissions per unit of production or material used to reflect RACT. An emission cap should not be the sole emission limiting provision of a SIP since it does not by itself assure a reduction in emissions that is always proportional to production (e.g., a RACT-level reduction). If a State chooses to adopt a mass emissions cap, it must be reflected in the State plan demonstration.

Although EPA is not proposing to mandate emissions caps, States will nonetheless be required to identify expressly in their emissions inventories (and hence their attainment demonstrations) the amount of emissions from each facility with emissions of 10 tons per year or greater. These emissions projections must equate to any corresponding regulatory emission caps adopted as a provision of the SIP. The EPA solicits comment on whether, in the absence of emission caps, it should require States to assume in their inventories and demonstrations, the maximum operating capacity and hours of operation at each source or class of sources, as it currently requires for demonstration of attainment of the short-term NAAQS for major emitters of sulfur dioxide (SO_2).

V. Measuring and Assuring Progress and Maintenance

Although tracking progress toward attainment has always been recognized as an integral part of any overall strategy to attain the standards, the procedures and requirements related to tracking progress have generally not been well defined or consistently applied. As a result, the adequacy of the control strategies have not been thoroughly and periodically assessed after the initial plan submittal. Implementation problems (e.g., overestimates of measure effectiveness, underestimates of growth) have often not been identified in a timely manner and appropriate corrective actions have not been identified or implemented. The EPA believes that increased attention and resources directed at tracking progress, combined with clearly defined procedures for measuring and reporting progress, are needed to ensure that the attainment strategies are fully implemented and that timely, corrective actions are taken when necessary. The EPA also believes that an effective program for tracking progress will require a coordinated effort among States and EPA, and the combined State/Federal effort will continue to be needed to ensure that, once attainment is reached, appropriate measures and procedures are in place to provide for maintenance of the standards into the future.

The EPA's policy for approving the July 1982 SIP submittals [47] (for areas needing the extension until 1987 for attainment) called for annual reporting by States to show adherence, through time, to the RFP curves in their attainment demonstrations. The annual report was to indicate the total annual emission reductions occurring from stationary and mobile sources and was to be submitted along with the source emissions and annual State action report required by July 1 of each year (40 CFR 51.321–51.328). The EPA believes that annual reporting of reductions from complying sources is still needed but that periodic updates of the entire emissions inventory and the demonstration of attainment are necessary to ensure that adequate progress is being made and the "course" established for attaining the standard is correct.

The EPA also believes that tracking efforts should be well-focused on meaningful reporting elements and structured around reasonable reporting formats and schedules to avoid unnecessary resource burdens on States and EPA. To this end, EPA intends to integrate the activities to track progress to the extent possible with existing program structures (e.g., the National Air Audit System); however, EPA recognizes that changes in certain existing programs would be necessary to accommodate the tracking and reporting requirements.

[47] 46 FR 7187, January 22, 1981.

Because of the importance of tracking progress, EPA proposes to require the initial plan revision for each area to contain a commitment by the State to submit, within 9 months of the end of each calendar year, a report showing the area's compliance with the most recent RFP [48] curve that EPA had approved for the area and the commitments in the plan. In addition, the initial plan would have to contain a commitment by the State to submit (1) a complete emission inventory every 3 years and (2) an updated demonstration of attainment every 6 years (see discussion in III.B.5.a.i). To ensure that unusual or unexpected occurrences will not interfere with the State's efforts to attain the standard, the State must include in its initial submittal a demonstration that its emergency episode plan is consistent with the requirements of this policy (see V.C. "Requirements for Emergency Episode Plans"). The State plan must also specify criteria and procedures to be followed to ensure that federally-assisted projects conform with the SIP.

To further emphasize the importance of tracking progress, EPA plans to review the State tracking activities and reports and corrective actions (when needed) to determine primarily if the State is continuing to make "reasonable efforts" to provide for expeditious attainment and maintenance. Failure to meet commitments in the plan could result in EPA's revocation of its earlier finding of reasonable efforts and the imposition of the appropriate sanctions. Where the area has received approval of a plan showing near-term attainment and maintenance, failure to track progress and implement measures could result in a finding of nonimplementation and the resulting sanctions.

A. *Measuring and Assuring Progress.* The EPA proposes to require States to aggressively track and report (1) annually, emission reductions from SIP compliance and, periodically, the total emission inventory; [49] (2) the status of implementation milestones; and (3) air quality levels. In addition, States will be required to report on the results and corrective actions associated with rule effectiveness evaluations and, every 6 years, to redo their demonstrations of

[48] The EPA uses the term reasonable further progress (RFP) here as encompassing the demonstration of progress for all Part D areas as well as other areas subject to the "reasonable efforts" requirements described in section IV.

[49] The RFP report and the 3-year inventory will address emissions of VOC and NO_x (if NO_x control is included in the ozone strategy) and CO (if the CO problem is areawide). Control measures addressing CO hotspots will be tracked through implementation milestones (see V.A.1.b, "Implementation Milestones").

attainment for long-term nonattainment areas to ensure that their control strategies are still adequate to provide for attainment by a date reflecting reasonable efforts.

1. *Aggressive Tracking.* The major elements that will be tracked to ensure acceptable progress will be emission reductions and total emissions, implementation milestones, and air quality. Emission reductions and total emissions will be the primary indicators of whether RFP is being achieved. The EPA proposes to require States to report on certain types of emission reductions, implementation milestones, and air quality in an annual report due within 9 months after the end of the calendar year being reported on. Every third annual report would also have a complete, updated emission inventory.[50] The first annual report would be for the first full calendar year after the initial plan submittal is due. The first annual report should cover emission reductions and measure implementation since the base year.

a. *Emission Reductions and Total Emissions.* The EPA proposes to require States to report within 9 months of the end of the calendar year the emission reductions which occurred during that year as a result of compliance with the SIP regulations or measures. These reductions should be combined with any emissions growth during the year to arrive at a net emission reduction.

The amount of emission reductions will depend on the degree to which the regulation has been implemented and compliance has been achieved by the sources covered by that regulation. In the annual RFP report, the State will provide the status of regulations which were to have been adopted in that year plus the status of compliance efforts by affected sources. Emission reductions occurring in the reporting year which were initially scheduled for earlier years should also be covered. The revised SIP's would be required to contain a commitment that, if implementation or compliance problems cause a shortfall in the expected emission reductions from a source category (including expected reductions from mobile source measures) to occur, the State will develop and implement additional measures needed to achieve at least an equivalent amount of reductions as expeditiously as practicable. This would apply even to those TCM's that, though fully adopted, did not achieve the projected emission reduction. Additional measures must be submitted in a SIP revision within 9 months after the annual RFP report due date and must achieve the shortfall in emission reductions within 2 years of the end of the year being reported on. Subsequent annual reports should document the implementation of these additional measures.[51]

If delays in full compliance with the regulation(s) are expected, the State should highlight the compliance problems, estimate the date for full compliance, and within 9 months of the end of the reporting year discuss with the EPA Regional Office the problem and any recommended steps for resolution. The EPA believes the National Air Audit System may provide an appropriate forum in which to discuss these problems and possible solutions. Delays of less than 1 year will be assumed not to be significant, but the State and EPA will conduct quarterly reviews to ensure that the delays do not extend beyond 1 year. If delays are expected to last more than 1 year, States are required to develop and implement interim measures to achieve reductions equivalent to the shortfall until full compliance with the original SIP measure is achieved or to substitute measures to replace the original measure. Interim or substitute measures must be submitted within 12 months after the reporting year, and schedules for implementing the measures must ensure that the shortfall in emission reductions is achieved within 2 years of the end of the year being reported on. Subsequent annual reports must document implementation of the substitute or interim measures.

The EPA proposes also to require States to update every 3 years the entire emission inventory for their nonattainment areas. The initial plan submittal must contain a commitment to revise the SIP (within 9 months) of the due date of the RFP report containing the updated inventory if the inventory updates are higher than the emissions represented on the RFP curve. Corrective actions must ensure that the targeted emission inventory level will be achieved expeditiously, but no later than the end of the base year for the next inventory update.

These inventory updates will help ensure that initial assumptions for major and area source growth, emission factors, or inventory procedures are still correct. The emission inventory base year for each 3-year period shall coincide with the 3-year projection years used in the demonstration of attainment.[52] The emission inventory updates will be included in the annual progress reports for those years (i.e., the inventory update is due 9 months after the end of the updated base year [53]). These complete emission inventories every 3 years should also detail new source review (NSR) activity. New source growth should be summarized along with the offsets produced or the reductions from the plan's allowance for such growth.

Specific guidance on tracking emissions reductions is contained in an EPA document entitled, "Revised Guidance for Tracking Reasonable Further Progress (RFP) in Ozone Control Programs." (See Appendix H.) The guidance in this document generally applies to CO also and to NO_x where NO_x controls are included in the ozone control strategy. The EPA plans to develop guidance on tracking the implementation of TCM's. This guidance will focus on specific steps to determine the reductions that are actually being achieved by the TCM's. Specific guidance for developing the emission inventories is contained in "Emission Inventory Requirements for Post-1987 Ozone State Implementation Plans."

b. *Implementation Milestones.* States must annually report on the status of

[50] As discussed later, the first inventory update will be for the year 1992 and will be submitted in the annual report due in 1993.

[51] The EPA will evaluate the State's performance in responding adequately to identified emission reduction shortfalls or problems in implementing control measures. A failure on the part of the State to respond to such shortfalls or problems may result in EPA's rescinding its finding of "reasonable efforts" and imposing sanctions in the area. Although EPA does not expected to take immediate corrective action (e.g., sanctions) when a State first experiences implementation problems, persistent failure to meet the emission reduction requirements and implementation milestones in the current demonstration of attainment, despite the State's taking correction action as outlined in this section, may also result in EPA's rescinding its finding of "reasonable efforts" and imposing sanctions.

[52] The demonstration of attainment will contain projections of the emission inventory at 3-year increments. An updated, actual emission inventory will be required from States to show that they are achieving their required emission reductions. The inventory updates will be included in the annual progress report which covers that year.

[53] The emission inventory contained in the initial plan submittal generally must reflect emissions in 1987. (See Section III.C) The plan must also show emission reductions projected to occur between 1988 and 1992 and beyond. As stated in Section IV.B. "Requirements of Expeditious Attainment Dates and Reasonable Progress," EPA believes that, in most cases, 1992 will be the earliest year in which compliance with the 3 percent annual reduction requirement (which begins in the year of the SIP call) can be expected. Therefore, EPA will require the State to show that creditable emission reductions of at least 15 percent have occurred in 1992. Thus, the first progress report that will contain an entire emission inventory will be due in 1993 and will cover the emissions in 1992. Subsequent inventory updates for the projection years in the demonstration of attainment will be contained in the progress report for those years (i.e., 1995 inventory reported in 1996, 1998 inventory reported in 1999, etc.).

those milestones and commitments which were to have been satisfied in the reporting year. The status of milestones and commitments scheduled but not met in earlier years should also be reported. If a milestone has not been met, the State must document the problems and the plans for satisfying the commitment. The EPA will assume that delays of more than 1 year in meeting a milestone will significantly interfere with implementation of the measure. As such, EPA will consider rescinding its approval of the SIP (or, in the case of long-term nonattainment areas, its prior finding of reasonable efforts) and the imposition of sanctions unless the State demonstrates that full implementation of the measure will not be delayed beyond the original date contained in the SIP.

If the State finds that an expected milestone(s) for a measure is no longer appropriate, the milestone can be amended through a SIP revision. Thorough documentation will be needed to show that adjustments to the milestones and schedule are warranted. Significant delays in the implementation of the measure may necessitate substitute or interim measures. The EPA will review such changes and the need for substitute measures on a case-by-case basis. The EPA's decision will depend greatly on the schedule for other State measures and the efforts on the part of the State to implement this and other measures.

c. *Air Quality.* States should compare their emission reductions from year to year with ambient air quality levels. Although considerably variable, air quality levels can be used as indicators of the effectiveness of the control strategy measures. Air quality levels for ozone and CO should be reported in accordance with the "Revised Guidance for Tracking Reasonable Further Progress (RFP) in Ozone Control Programs." Significant divergence of air quality trends from estimated emission reductions may indicate the need for reexamination of the control strategy and demonstration of attainment.

In areas with long-term attainment dates, States are required to monitor each year the nonmethane organic compounds (NMOC) during the ozone season. The EPA proposes to require that the initial plan revisions contain commitments to perform NMOC and NO_x monitoring. These monitoring data are to be compared with the periodic (every 3 years) emission inventories in the appropriate annual progress report. These monitoring data will be used to evaluate the long-term trends and effectiveness of the control strategy and to support subsequent updates to the demonstration of attainment. Other States are also encouraged to establish monitoring sites for NMOC.

2. *Rule Effectiveness Evaluation.* Each year States and EPA Regional Offices will evaluate selected SIP regulations and programs to determine whether they are achieving their intended effect. The EPA will provide guidance for the rule effectiveness evaluations and identify each year those regulations and programs which should be the focus of the evaluations. In selecting regulations to evaluate, the EPA Regional Office and the State may jointly decide on a substitute regulation for evaluation according to the criteria in the above guidance.

The EPA will work with States, possibly through the existing National Air Audit System (NAAS), to complete a detailed review of one or more VOC regulations per year to uncover such problems as inadequate enforcement, improper test methods, ambiguous language in the regulations, and lack of proper training for agency or industry staff. The EPA and the State would then complete a joint report on the problems identified during the evaluation.

The results of each year's rule effectiveness evaluations will be summarized in the State's annual RFP report. Major problems will be identified, and actions needed to remedy the problems will be listed. The report should contain a schedule of the steps the State will take to correct implementation problems. The EPA expects implementation problems to be corrected within 1 year after the due date for the annual report. Subsequent annual reports should summarize corrective actions taken and their results.

3. *Subsequent Demonstrations of Attainment.* The EPA proposes to require States to reexamine their demonstrations of attainment periodically (every 6 years to coincide with every other updated emission inventory) based on up-to-date emission levels, modeling techniques, emission factors, and air quality levels (O_3, NO_x, NMOC, CO). States with attainment dates within the subsequent 6 years (from the original SIP due date or the date the updated demonstration is due) must also project their emissions for at least 10 years (from that date) to show that their strategies will provide for maintenance of the standards. States may also want to review and modify their demonstrations more frequently if changes in emission factors, air quality levels, modeling techniques, or other factors affecting the demonstration might indicate the need for changes to their control strategies. The EPA will periodically provide States guidance on these subsequent demonstrations, including information on base year emission inventories, modeling methodologies, and schedules for submittal. The EPA expects that these subsequent demonstrations will be due within 18 months after the end of the 6-year period.[54] The updated demonstration of attainment will consider the effects that implemented measures have had, including a comparison between these effects and the projections in the earlier demonstration(s).

The primary objective of the demonstrations of attainment (subsequent to the initial submittal) is to determine whether the resulting control program effectiveness, changes in air quality levels, the science of ozone formation and transport, or modeling or emission calculation procedures might significantly affect the strategy that has been developed for an area. Also, these subsequent demonstrations can provide greater detail for long-term measures (as additional details become available on the implementation of these measures) and fully incorporate any previous changes in the strategy (e.g., new measures to make up for shortfalls). The annual report should ensure that the original strategy is being effectively implemented. The updated demonstration of attainment will evaluate the ability of the strategy (as it has been implemented) to continue to achieve emission reductions sufficient to achieve the ambient standard as planned. If, for example, the updated demonstration indicates that more emission reductions will be needed than will be provided through full implementation of the current strategy, then additional measures must be developed and adopted by the State. Similarly, changes in the knowledge of ozone formation could possibly indicate that NO_x emission reductions, in addition to VOC reductions, would be effective in reducing ozone. The EPA will work closely with States in evaluating the implications of these types of changes as well as new developments in control technologies.

The EPA also believes that the subsequent demonstrations of attainment will provide an opportunity to review the performance to date of the State with regard to implementation of measures and achievement of the RFP emission reductions. In the review of the

[54] The first update to the demonstration of attainment (covering the period through 1995) will be due by mid-1997

updated demonstrations of attainment, EPA plans to assess whether reasonable efforts are still being made by the State to provide for expeditious attainment of the standards.

B. *Maintenance Plan and Continuity of Control Programs.* The objective of all SIP's is to attain the ambient standards. However, once attainment is reached, States must ensure that the SIP's are capable of maintaining the standards into the future. Maintenance programs will be composed of the redesignation from nonattainment to attainment (where this section 107 process is appropriate), continued monitoring of air quality levels and emission inventories, and maintenance strategies for assuring continued emissions reduction.

1. *Nonattainment Redesignation.* The EPA's current policies for redesignating an area from nonattainment to attainment will continue to apply. In general, for redesignations the State must demonstrate that the area no longer violates the ambient standard and the control plan for the area has been fully implemented. The specific requirements for ozone redesignations differ somewhat from those for CO redesignations particularly with regard to the air quality data needed to show that no violations have occurred.[55]

a. *Ozone.* States must provide at least 3 years of air quality data showing that no violations of the ambient standard have occurred. The data must represent (or be adjusted to represent) three complete ozone seasons. The EPA believes that the emissions throughout an MSA/CMSA can affect air quality throughout the MSA/CMSA. Under the planning requirements described earlier, EPA is proposing to require States to consider emissions throughout the MSA/CMSA in developing their ozone control strategies. Similarly, with regard to redesignations, EPA proposes to require States to show that no ozone violations are occurring at any monitoring sites in the MSA/CMSA before the designated nonattainment area can be redesignated to attainment. This is because the designated nonattainment area in such a case may be contributing to the monitored violations in the MSA/CMSA.

The EPA is considering alternatives for addressing redesignation requests involving transport areas. Under current policy, areas with downwind design sites located outside of the control area must show that attainment has occurred at the design site as well as in the control area. For such transport situations the EPA proposes to continue this policy.

For more complex transport situations (e.g., the Northeast areas covered in ROM analysis), EPA recognizes that several upwind areas may affect a specific area or several downwind areas. Several options are available for treating redesignations for these areas. A similar approach to the above, where all nonattainment areas remained designated so until attainment is shown in the downwind areas, could be followed. This approach would apply to an area that has fully implemented its strategy and reduced emissions to attain in that area, and reduced sufficiently its share of transport to the downwind area. This approach would require such an area to remain nonattainment while other areas (which contributed to transport) implemented their strategies over possibly much longer timeframes. Although the new source requirements would be similar after redesignation to attainment as they were under nonattainment (see discussion below on "Maintenance Strategy Requirements"), there would be fewer and less frequent reporting requirements and, of course, the area would be able to show that its air quality was in attainment.

As an alternative to requiring attainment in the downwind area before any upwind area could redesignate, EPA could allow an area to redesignate if it had attained in its area and achieved reductions for its share of the transport problem.[56] The EPA will evaluate this alternative and the one described above plus any others identified through comments to determine an equitable approach to redesignating upwind areas while still ensuring expeditious attainment in all areas (upwind and downwind).

In addition to requiring areas to show 3 years of ambient data with no violations, current policy requires areas to show that the SIP for the area has been fully implemented and that the planned emission reductions have occurred. (The EPA will consider requests for redesignations where full implementation has not occurred if the State provides legally enforceable compliance schedules for those sources not yet in compliance.) This requirement stems from EPA's obligation, implicit in sections 107 and 171, to assure that an area's air quality improvement is not a temporary phenomenon but rather the result of permanent reductions achieved by implementation of its approved plan. The EPA will also review available NMOC monitoring data to assess whether those air quality trends reflect actual changes in the emissions inventory.

The EPA is proposing to require States to demonstrate that the emission reductions and the resulting attainment inventory level (see discussion following) will be maintained into the future.[57] Although EPA recognizes that long-term growth projections can be highly speculative, States will be required to use the best available information to project growth and related emissions as far as reasonable into the future. A minimum future projection of 10 years from the redesignation will be required. The EPA will provide guidance on projecting emissions and other aspects of developing a maintenance plan. The air pollution control requirements that will apply to that growth should be considered in determining what the resulting emission level will be.

All EPA-approved attainment strategy requirements are in effect during the redesignation process and until such time as modified in accordance with established SIP revision procedures. Even though the current NSR regulations allow a potential exemption from nonattainment area NSR requirements for sources wishing to locate in an area designated nonattainment that can demonstrate attainment before the source would start operation, EPA proposed removing this exemption on January 28, 1981 (at 46 FR 8124). The EPA is now considering implementing this rule change in this policy and invites comment on this issue.

b. *Carbon Monoxide.* The EPA proposes to continue the current policy of requiring at least 2 years of ambient monitoring showing no violations of the standard for redesignations to attainment. Also, States must continue to show that the CO control strategy has been fully implemented and the planned emission reductions have been achieved. As with ozone, EPA will consider redesignations even though full implementation has not occurred if the State provides legally enforceable compliance schedules for the source(s) not yet in compliance. In addition, States must show that future growth under applicable control requirements

[55] The EPA policy on nonattainment redesignations is further described in the following memoranda: "Section 107 Designation Policy Summary," April 21, 1983, Sheldon Meyers to Regional Office Division Directors; "Section 107 Questions and Answers," G. T. Helms to Regional Office Air Branch Chiefs.

[56] Determination of reductions needed in attainment areas to reduce downwind transport will depend on the results of regional models.

[57] The requirement to maintain the attainment inventory level in areas which had areawide CO problems will apply to the entire MSA/CMSA. For areas which had only CO hotspot problems, smaller areas (after EPA approval) may be used in determining the attainment inventory level.

(see V.B.2 below) will not cause significant increases in the attainment emission inventory level (i.e., the initial baseline inventory minus the reductions needed for attainment) or otherwise interfere with maintenance of the standard. A minimum future projection of 10 years is required. The EPA will provide guidance on projecting emissions and other aspects of developing a maintenance plan.

In some areas, for CO, States may desire to reduce the coverage of the nonattainment area. The EPA will consider such requests if the State provides air quality data and a detailed modeling analysis showing that areawide or hotspot violations are no longer occurring (and none are projected to occur for 10 years) in the area outside of the proposed nonattainment area (including any designated attainment areas in the MSA/CMSA outside of the proposed nonattainment area). The EPA will no longer consider requests for redefining the CO nonattainment area smaller than the urbanized area because it is clear that vehicles at residences and businesses throughout that area contribute to even localized hotspot CO problems in the area.

2. *Maintenance Strategy Requirements.* Maintenance strategies are needed to ensure that future violations will not occur in an area that has attained the standard and to clearly set forth the procedures for monitoring growth and emission changes and possibly modifying certain elements of the EPA-approved attainment strategy after attainment occurs. The primary components of these strategies are the mechanisms for tracking emissions and air quality after attainment, the requirements related to new source growth, projecting emissions growth, and the need for additional measures and the procedures for modifying the existing attainment strategy (particularly with regard to relaxations of requirements in the approved SIP's).

The emission level that is the basis for redesignation to attainment is called the attainment inventory. For ozone, this inventory is based on actual emissions during the 3-year period corresponding to the 3-year period during which no ambient violations were recorded. For CO, 2-year periods are used. The lowest annual emission level during this period will be considered the attainment inventory. The EPA will provide additional guidance later to States on the development of the attainment inventory.

a. *Tracking Emissions and Air Quality.* The procedures for tracking emissions and air quality after an area has attained the standard will be an extension of the reporting requirements used in monitoring RFP (see section V.A.1.—Aggressive Tracking). Under the maintenance strategy, the States will report less frequently and will focus more on new source growth rather than implementation of additional control measures. However, measuring and improving the effectiveness of regulations and control programs will continue to be important objectives for the States and EPA in the maintenance strategies.

For maintenance, EPA is proposing to require States to provide a report every 3 years summarizing all new source growth and other emission changes from the attainment inventory. The first report will be due 45 months [58] after the end of the year in which (1) the area is formally redesignated (for section 107 designated nonattainment areas) or (2) the area is found to no longer violate the ambient standard (for areas which never had section 107 nonattainment designations or were designated attainment under section 107). The first report will address all emission changes in the year of the redesignation plus the following 3 years. Thereafter, the report will cover emission changes and other related items in subsequent 3-year periods and will be due within 9 months after the end of the 3-year period. This report and all subsequent reports will also document the results of the rule effectiveness evaluations which have occurred in the 3-year reporting period. Appropriate effectiveness levels should be used in developing subsequent emission inventories (see below). The report will document any steps being taken to improve rule effectiveness.

In the 3-year report, the State will provide a complete up-to-date emission inventory. The base year should be the third year of the 3-year reporting period. The inventory should be presented in the form contained in "Emission Inventory Requirements for Post-1987 Ozone State Implementation Plans." The summary of emissions should delineate the emissions growth from new sources or sources which have expanded. Minor and area source growth should be shown, and the State should indicate whether previous assumptions used in projecting minor and area source growth are still appropriate. The sources and magnitude of emissions offsets should be identified. NO_x and CO emission summaries should also be provided.

If the updated inventory reported to EPA is higher than the attainment inventory, the State must take appropriate action to lower its emissions.[59] Within 9 months from the due date for that report, the State must (1) demonstrate that within the calendar year after the end of the last reporting period, the emissions inventory fell below the attainment inventory or (2) submit a SIP revision containing appropriate measures to ensure that the inventory will fall below the attainment inventory as expeditiously as practicable.

The 3-year report from the State should also summarize air quality levels and trends. If an area had been nonattainment for ozone, NMOC and NO_x levels and trends should also be reported. The EPA will develop additional guidance for States to follow in summarizing their air quality data under the maintenance strategies. The EPA is also proposing to require States to project in every other 3-year report (i.e., every 6 years) their expected emissions over the next 10 years. In this report, the State must show that its current SIP is adequate to maintain the standard after attainment. If the SIP measures will not be able to ensure that emissions stay below the attainment inventory level, the State must submit in that report its plan for additional measures to accommodate the growth. The State must commit to implement those additional measures at a rate such that the emission reductions occur before the emission increases from expected growth.

b. *New Source Growth Requirements.* The State must ensure that emissions growth from new sources (major, minor, stationary, mobile) does not interfere with attainment.

Because of the complex processes involved in the formation of ozone, the difficulty in modeling the impact of specific VOC and NO_x sources, and the fact that, with models currently in most widespread use (i.e., EKMA), the exact location of VOC and NO_x sources is not as important as the total emissions within an area, EPA believes that for VOC and NO_x [60] major sources, offsetting emissions from within the area is needed to control emissions growth. The EPA believes that States should have flexibility to use either case-by-case offsets or develop areawide accommodative plans, or both, in developing maintenance strategies.

[58] The 45 months is based on a requirement to report within 9 months of the first 3-year period.

[59] For CO *hotspot* problems, the attainment inventory will be used as an indicator of the potential for additional or recurring CO problems. The State will not have to maintain emissions below the attainment inventory if it demonstrates that the increases are not related to and will not have an effect on the previous problem area.

[60] This requirement applies where NO_x control is part of the ozone control strategy.

Therefore, EPA proposes to allow each State to decide its own approach for addressing emissions growth as long as there are assurances that the attainment inventory level is maintained and provided that the State satisfies other regulatory requirements (e.g., PSD, in areas redesignated to attainment). The State must keep records to show at any one time that the new growth can be accommodated by the SIP.

The paragraphs above address emissions growth from new or modified major VOC sources. To account for minor source and area and mobile source emissions growth, the State must adopt and implement additional control measures to accommodate the increases and keep area emissions below the attainment inventory. The State will have considerable flexibility in developing this part of the maintenance strategy to compensate for emissions growth. For example, the State could address minor point source growth by applying to minor sources the preconstruction review process for major sources and modifications. Alternatively, the State might adopt additional measures, such as further controls, mitigation fees, or other innovative approaches, that will provide a margin of growth for minor point, area, and mobile sources. The State must show, however, that its measures will produce the necessary emission reductions within the same period or before the emissions growth occurs (whether from minor point, area, or mobile sources). Some of these measures will have been identified in the demonstration accompanying the request for a redesignation to attainment. Others may be developed later and submitted as SIP revisions, so long as they create the emission reductions prior to the emissions growth.

The EPA believes that it may also be reasonable to ensure maintenance of the CO ambient standard in an approach similar to the one discussed above for ozone. Although "hotspot" CO problems have been identified in several areas, these high CO concentrations are often an indication of broader problems associated with significant CO emissions across a larger area. Therefore, EPA is proposing to require CO maintenance plans to (1) ensure that emissions remain below the attainment inventory for an area and (2) periodically (in the 3-year report) assess the effects of new source growth. Exceptions to the first requirement may be allowed if the State demonstrates that its previous CO problem was entirely a hotspot problem and that the emission increases will not cause or contribute to a new hotspot problem.

c. *Modifying the Attainment Strategy.* In general, EPA believes that measures implemented to attain the ambient standard will continue to be needed to maintain the standard. The EPA expects, however, that there may be some cases in which the emission reduction potential of a measure decreases due to a change in the source profile or other technological developments (e.g., more effective new car emission controls). In addition, a State may have other reasons for which it desires to modify the strategy it had developed, adopted, and implemented to attain the standard. Any modification to an attainment strategy would have to be submitted as a SIP revision and approved by EPA before it would affect the applicability of the previously approved SIP.

C. *Requirements for Emergency Episode Plans.* Each State is required to develop an emergency episode plan outlining the steps the State and its sources will take to lower emissions rapidly in the case of highly elevated pollution levels (40 CFR Part 51, Subpart H). The EPA believes that this emergency episode plan should be consistent with and supportive of the proposed policy to ensure that special occurrences will not interfere with the State's efforts to attain the standards and achieve RFP in the interim. Therefore, EPA proposes to require the initial plan submittals from the States to demonstrate that their emergency episode plans are consistent with the requirements of this policy. If a State is unable to provide such a demonstration in the initial submittal due to the need for significant changes in its emergency episode plan, EPA proposes to allow the State up to the due date for the first RFP report to provide the demonstration. The initial submittal must contain a commitment to and description of actions needed to provide this demonstration.

The EPA is proposing that source areas in one State that contribute to ozone exceedances in another State develop emergency episode plans which consider those receptor areas. These plans must include a provision for interstate coordination involving air quality data and quality assurance information.

D. *Conformity of Federal Actions With the SIP.* Section 176(c) of the Act aims to ensure that Federal actions conform with the SIP. This requirement helps to ensure that SIP growth projections are not exceeded, RFP targets are achieved, and air quality maintenance efforts are not undermined.

Section 176(c) of the Act requires all federally approved or financially assisted actions (projects, plans, approvals, assistance, etc.) to conform to the SIP's for the areas in which those actions will take place. MPO's are prohibited from approving any project, program, or plan that does not conform to the SIP for that area. Assurance of conformity is also an affirmative responsibility of the head of each Federal agency.

Due to the existing DOT/EPA Conformity Agreement of June 12, 1980, the conformity approach contained in this section and the more detailed criteria contained in the proposed Policy Statement do not apply to transportation plans, programs, and projects approved by Metropolitan Planning Organizations (MPO's) and approved or funded by DOT. The EPA and DOT will discuss the joint updating and revision of the 1980 Conformity Agreement. Any changes to the 1980 Agreement, following these discussions, will be reflected in a separate rulemaking action by DOT in a revision of 23 CFR Part 770 which will be published sometime in the near future.

Since Congress enacted these requirements, some MPO's and Federal agencies have read the conformity provision to require only that a proposed project be consistent with regulations in the SIP. This narrow reading could allow activities that, while not inconsistent with an actual State or local rule, could cause a NAAQS violation (in the near- or long-term) or be inconsistent with the demonstration of emission reduction progress or of attainment in the approved SIP. Thus, the use of such a narrow reading would pose an essentially unchecked threat to the integrity of the SIP's on which EPA and the States will rely to produce progress and eventual attainment.

The primary purpose of SIP's is to attain and maintain the NAAQS. For this reason, the EPA believes that it must take concrete steps to ensure that federally approved and financially assisted actions conform with the SIP by not causing NAAQS violations. Federal actions should conform to both the SIP regulations and the emission reduction projections demonstrating progress and attainment on which EPA relies to approve new SIP's and to decide on discretionary sanctions. The EPA believes that it already has the authority to establish these safeguards. Section 110(a)(2)(B), which applies to all areas receiving SIP calls, requires SIP's to contain emission limitations, schedules,

and timetables for compliance with such limitations, and "such other measures as may be necessary to ensure attainment and maintenance of such primary or secondary standard * * *."

To ensure that projects, programs, or plans approved by MPO's do not cause NAAQS violations or interfere with timely attainment of the standards (and hence do conform to the revised SIP), EPA will require that each revised SIP explicitly identify direct and indirect emissions expected from projected major Federal actions that the State and MPO expect to occur in coming years. The SIP should document assumptions used in predicting future emissions so that emissions associated with Federal actions can be readily compared to emission projections in the SIP. This should include assumptions on growth that can be readily disaggregated (including population, employment, VMT, and emissions, as appropriate). Beyond that, the SIP must contain a clear definition of the circumstances in which a federally funded or approved project will or will not conform to the SIP. That definition must state that a project conforms to the SIP only if the emissions that it will cause (calculated using assumptions consistent with SIP assumptions) will not bring aggregate emissions for the planning area above the level projected for the area for the relevant timeframes in the SIP's demonstration of emission reduction progress and attainment.

Where existing MPO section 176(c) review procedures ensure that such projects would not cause violations or interfere with timely attainment and maintenance of the air quality standards, the definition of conformity in SIP submittals could simply mirror the definition used by those agencies. For other cases, however, the SIP conformity definition would fill the gap left by the existing procedures. Stated differently, the inclusion of a broad definition of conformity in the SIP will ensure that projects reviewed by MPO's would be evaluated against the appropriate criteria.[61]

The proposed Policy Statement at the end of today's notice contains a more detailed list of the criteria that should comprise the SIP's definition of when federally-assisted projects conform with the SIP.

[61] At least one Federal agency, the Department of Housing and Urban Development, has a separate Federal statute that authorizes the EPA to delegate its responsibilities under section 176(c) to the recipient of Federal approval (and funds) for the project. In such cases, the recipient would need to use the SIP's broad definition of conformity in making the section 176(c) determination.

VI. Maximizing Effectiveness of Existing Program

The policy being proposed today recognizes that the control strategy development process and associated regulatory development are a predictive process, predicated upon technical and socioeconomic assumptions and projections, and often upon developing and implementing new technology and science. The EPA recognizes that, in developing control strategies, control measures, and regulations that must be implemented on a national basis, the potential for varying interpretations and inconsistent application exists.

With regard to current SIP's, EPA believes that variations and inconsistencies between some State regulations and program functions and the requirements of existing EPA policies do exist and, when viewed in total, have a potentially significant effect on whether emissions will actually be reduced to the levels contained in the SIP thus effecting the ability of the SIP to achieve attainment.

These errors and inconsistencies must be reduced and eliminated to allow for the fullest implementation of existing control measures and strategies.

In April of 1987, the EPA Administrator sent letters to 42 State Governors expressing his concern that current SIP requirements may not be adequate to provide for the attainment of the NAAQS for ozone and carbon monoxide. While stating that additional control efforts may have to be undertaken, the Administrator also proposed a three-part process to ensure that current SIP's are achieving the reductions consistent with those to which the States had committed in their SIP's. This three-part process will require EPA to: (1) Review the federally-approved control commitments in the SIP to see that they have now been adopted, (2) review the adopted measures to determine if they are technically adequate and meet minimum national standards, and (3) initiate a comprehensive program to determine whether adopted regulations are being effectively implemented.

In addition to these efforts, EPA has found that a number of SIP's contain various inconsistencies with respect to EPA policy and misinterpretations of national guidance. The EPA proposes to require States to correct these deficiencies and inconsistencies as expeditiously as possible but at least by the time the initial SIP is due (in 2 years from the SIP call). The EPA will work with the various States in identifying specific inconsistencies contained in their SIP's and in developing a schedule for submitting the needed revisions. The EPA is also in the process of upgrading guidance material, developing new guidance where needed, and formulating State-EPA workgroups and clearinghouses to assist the States in improving their overall program effectiveness.

As previously stated, EPA proposes to require the revised SIP's for those areas receiving SIP deficiency notices to include corrections to those portions of their plans that are inconsistent with national policy or have ambiguities that allow for interpretations different from what existing EPA guidance would allow. Appendix D contains a detailed discussion of those inconsistencies and provides EPA's proposed guidance on how States should correct them in their revised SIP's.

Also, Appendix J lists a number of other measures that the States may consider in improving the overall effectiveness of their programs.

Statement of EPA Policy for Approval of Post-1987 Ozone and Carbon Monoxide Plan Revisions [62]

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Introduction

A number of areas in the United States, mainly metropolitan areas, currently have ambient levels of ozone and carbon monoxide (CO) in excess of the national ambient air quality standards (NAAQS). A list of these areas can be found in Appendix A. The Environmental Protection Agency (EPA) believes that many of these areas will not be able to attain the air quality

[62] The following is a complete statement of the policy elements discussed previously in this notice. The final version of this Policy Statement will appear in EPA's publication of a final notice on post-1987 ozone and CO plan revisions.

standards by December 31, 1987, the latest date by which State implementation plans (SIP's) established under Part D of the Clean Air Act (the Act) were to provide for attainment. The following policy will govern post-1987 planning for the areas that were not able to attain the standards by that date and have been notified by EPA that their SIP's are substantially inadequate, or that their pending SIP submittals are not approvable. The EPA intends this policy to apply to planning even in areas whose SIP's are found substantially inadequate subsequent to the round of SIP calls expected in 1988. The **Federal Register** notices and documents in Appendix H provide useful background for this policy.

The requirements set forth in this policy are designed to result in State plans that attain the ozone and CO standards as expeditiously as practicable and by a date certain. The policy addresses the need for State and local agencies, in designing their control strategies, to develop and implement stringent and innovative measures for the control of volatile organic compounds (VOC's), nitrogen oxides (NO_x), and CO. Attainment of the ozone and CO air quality standards in an area will require the implementation of nationally implemented measures and EPA-prescribed measures, as well as locally developed and implemented measures designed specifically for that area's needs. The area must also account for the contribution of ozone and its precursors from the surrounding areas.

All designated nonattainment areas will be required to achieve reductions in the near term from implementation of measures previously required in their Part D SIP's. Areas that cannot demonstrate attainment in the near term will become subject to a construction moratorium and, to avoid additional sanctions, will be required to demonstrate that they will achieve at least a minimum level of reduction in emissions periodically until attainment can be demonstrated.

While a large portion of this policy discusses additional requirements for ozone and CO control, EPA also points out the potential for improving and maximizing the effectiveness of both existing and future measures. The EPA has found through its program of auditing State performance that a number of inconsistencies and misinterpretations of national policy exist. These discrepancies can result in predicted emissions reductions not being fully realized and therefore attainment of the standards being delayed. The EPA will, through this policy, delineate specific areas of concern, and suggest ways to correct or alleviate these existing problems. In addition to encouraging maximum existing program effectiveness, the policy will reiterate the requirements for adopting regulations to apply reasonably available control technology (RACT) consistent with the EPA Control Technique Guideline (CTG) documents published for the categories of sources in Groups I, II, and III, and major non-CTG sources, where applicable. The statement also discusses the requirements for implementing an enhanced vehicle inspection/maintenance (I/M) program (where there is a final decision to require enhanced I/M). Beyond these measures and the benefits to be derived from the Federal Motor Vehicle Control Program (FMVCP) and EPA's proposed regulations to require onboard VOC controls for automobiles and the control of gasoline vapor pressure, EPA will require each area to incorporate the necessary type and mix of controls needed to demonstrate attainment of the NAAQS and to meet applicable rates of progress. The EPA recognizes that a large reduction in VOC emissions has already occurred in many urban areas due to the FMVCP, I/M, and RACT controls on stationary sources. Although mobile source emissions will continue to be reduced over the next few years, the benefit may be diminished in the mid-1990's by completion of fleet turnover to vehicles with more stringent emissions controls if there is continued growth in vehicle miles traveled (VMT). With these events in mind, EPA believes many State and local agencies will have to select and commit to implement transportation-related control measures in their attainment strategies to obtain sufficient emission reductions.

A new concept to account for planned reductions from control measures is being proposed through this policy. Historically, States assumed in their planning that emission-limiting regulations would be 100 percent effective, meaning that the regulatory agency could take full credit for the reduction in emissions that the implementation of a particular emission regulation would theoretically achieve. Experience in compliance monitoring and rule effectiveness evaluation shows, however, that regulations are often implemented on less than a fully effective basis, due to such factors as the failure of some sources to comply, periodic failure of control equipment, plant upsets, leaks, and spills. Also, projections of reductions in the SIP can be inaccurate and may overstate the effectiveness of control measures. Based on this, EPA requires that an effectiveness level of less than 100 percent must be factored into the SIP demonstrations. The EPA will also require States to measure effectiveness levels of existing regulations and use these levels in planning for expected reductions.

For those areas unable to demonstrate attainment in the near term, the plan must also commit to providing periodic updates to the SIP on a 6-year frequency. These updates are to validate control measures implemented during the previous 6 years and update and refine the commitments planned for the next 6-year segment. In addition to the "segment" plan requirements, the SIP must commit to reasonable further progress (RFP) reporting. These RFP reports are to provide an annual summary of results and status of the control strategy. The SIP must also commit to providing a complete emissions inventory update, revising or confirming previously established emissions growth and reduction projections, on a triennial basis.

The SIP must also commit to maintain the ambient standards once they are attained. For areas demonstrating near-term attainment, EPA requires SIP's to provide sufficient control measures to ensure continued maintenance. The EPA will provide for maintenance by requiring the SIP's to contain commitments to take actions necessary to maintain emissions at or below the level associated with attainment (the "attainment inventory"), even after attainment is reached.

The requirements set forth in this policy involve technologically complex issues. In addition to establishing the framework and discussing detailed requirements for State and local action, the policy mentions a wide range of guidance EPA will provide to assist in developing an approvable plan. Appendix H of this notice includes a list of guidance material that is available to assist the States in the development of their strategies and SIP revisions. The EPA will, from time to time, add additional guidance to this list, in order to provide the latest available information to the States.

I. Affected Areas

All areas with ozone or CO design values in excess of the NAAQS will receive a SIP call if there has not been a SIP disapproval for that area. Areas with disapproved SIP's must also meet

the requirements of this policy.[63] Any area with monitored violations or whose SIP has been proposed for disapproval will be referred to herein as a nonattainment area. In addition, all future areas requesting redesignations under section 107 will be subject to the maintenance and redesignation requirements of this policy (see section V: Measuring and Assuring Progress and Maintenance).

A. *Areas Violating the Ozone NAAQS.* Where a nonattainment area is located within a Metropolitan Statistical Area (MSA),[64] the boundary of the MSA must be used as a planning area for the purpose of constructing the base emissions inventory and projecting emission reductions from VOC and NO_x sources. Where the MSA is included within a CMSA, the boundaries of the CMSA must be used as the planning area. The EPA will not accept plans based on attainment demonstrations that do not fully account for emissions in this planning area. Where a previous SIP has used a planning area (or section 107 designated nonattainment area) larger than the MSA/CMSA, that larger area should continue to serve as the planning area.[65] Accordingly, EPA intends its SIP calls to apply to the larger of these areas. In addition, plans must account for emissions from large sources located outside, but within 25 miles, of the boundary of the MSA/CMSA. Some non-MSA counties adjacent to a nonattaining MSA/CMSA have design values for ozone in excess of the standard. For planning purposes, these adjacent counties that have monitored ozone violations are to be included in the adjacent MSA/CMSA planning area.

The EPA recognizes that many of the MSA/CMSA's involve more than one State and therefore the level of coordination and interagency discussions and agreements are heightened significantly. While each State associated with a particular MSA/CMSA will be responsible for its portion of emissions inventory information, and adoption and implementation of specific measures and regulations, EPA encourages the various States to participate in a joint planning effort to develop a single strategy for the MSA/CMSA. The EPA Regional Offices will work with the States and local metropolitan planning organizations in developing the various aspects of the control strategy.

Counties that violate the standard but are not within or adjacent to the boundary of an MSA/CMSA shall be defined as isolated rural areas that are either "self-generating" or "nonself-generating." Self-generating areas are those areas that cause or significantly contribute to local ambient levels of ozone. Nonself-generating areas are those areas that do not cause or significantly contribute to local ambient levels of ozone. (See Appendix B for procedures to determine whether a rural area is self-generating.) Nonself-generating areas must identify the upwind area (or areas) within 10 hours travel time believed to be causing or contributing significantly to local nonattainment.[66] For isolated rural areas, the minimum area affected by the ozone portion of this policy is the county in which the monitored violation occurred.

B. *Areas Violating the CO NAAQS.* For areawide CO problems, the boundary of the MSA/CMSA is to be used for purposes of control strategy planning. Where the violation occurs in an area not included within an MSA/CMSA, then, for purposes of control strategy planning, the affected area is the county where the violation was measured. For an area impacted only by "hotspot" problems determined by using procedures in section III.A., EPA will allow the area of nonattainment planning to be reduced to an area commensurate with the scope of the nonattainment problem and its likely solution.

II. Planning Schedules

A. *Basic Schedule for Response to SIP Calls.* The EPA requires all areas receiving ozone or CO SIP calls or final plan disapprovals to revise their SIP's within 2 years of the SIP call or disapproval, whichever is applicable. The planning period, however, will not allow States to modify existing planning or implementation schedules to which they may now be subject. These schedules will remain in effect until and unless the EPA-approved post-1987 SIP (developed in accordance with the provisions of this policy) modifies the schedules. The revised SIP's must meet the 2-year submittal requirement specified in this policy, except that, for the situations involving certain rule adoptions and isolated rural area analyses discussed below in section II.B, those requirements must be satisfied in a supplemental revision due after the initial 2-year period. A draft detailed and comprehensive emissions inventory will be due from all areas within 12 months of the SIP call or disapproval.[67] The EPA will work with State and local air agencies to establish appropriate schedules and milestones to ensure that the plans can be developed and adopted by the submittal deadline.

To ensure that the State and local governments give high priority to the development of the SIP, the Governor, after consultation with principal elected officials of each local government in the affected area, must submit within 3 months of the SIP call a written commitment to develop a SIP revision in accordance with this policy. In addition, within 6 months after the SIP call, the State must review with EPA its schedules, commitments, and progress in the development and adoption processes regarding enhanced I/M, SIP rule discrepancies and inconsistencies, previously required measures (e.g., CTG's), and all necessary measures for satisfying minimum prescribed rate of progress requirements described later in section IV. (See Appendix M for a summary of timing of these and other key policy requirements.)

B. *Schedules for Special Situations.*[68] The EPA will allow additional time for

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[63] EPA has proposed (52 FR 26404, July 14, 1987) disapproval of 14 ozone and CO SIP's. The SIP's for some other areas have already been disapproved, e.g., CO SIP for Albuquerque.

[64] The general concept of an MSA is one of a large population nucleus together with adjacent communities that have a high degree of social and economic integration with that nucleus. These areas are defined and designated by the Office of Information and Regulatory Affairs, U.S. Office of Management and Budget, which follows a set of official published standards developed by the Federal Committee on MSA's (45 FR 956, 1/3/80).

The MSA's are defined in terms of entire counties, except in the six New England States where they are defined in terms of cities and towns. If an area has more than 1 million population and meets certain specified requirements, it is termed a Consolidated Metropolitan Statistical Area (CMSA).

[65] For areas previously classified as rural nonattainment areas under the old policy that are classified as urban (MSA) under today's proposal, the minimum planning area will be the MSA.

[66] Isolated rural areas in the Regional Oxidant Model (ROM) domain in the Northeast found to be nonself-generating must delay identification of upwind areas until the Regional Ozone Modeling of Northeast Transport (ROMNET) program results are available.

[67] As explained below, certain isolated rural (non-MSA) areas will not have to submit the emission inventory within this 2-year period.

[68] The EPA is aware that other situations may necessitate SIP revisions after the initial submittal. For example, the ROM analysis for the northeast States, which will not be complete within the 2-year period, will provide a more rigorous regionwide analysis of ozone transport and the effects of control strategies. The EPA believes that currently available models and methodologies will enable the RDM areas to estimate transport effects as well as impacts from their own sources before the ROM results are available, so that an adequate plan can be revised to the extent necessary to incorporate additional controls to reduce downwind impacts. The EPA will work closely with States to ensure that SIP revisions based on these updated analyses are made expeditiously. However, EPA would expect all supplemental revisions arising from the ROM analysis to be accomplished and submitted within 5 years of this initial SIP call or disapproval.

the development and completion of adoption of the control strategy in the situations discussed below. In order for a State to receive additional time to complete development and adoption of its SIP, it must review with EPA within 1 year after the SIP call its need for additional time to complete the development and adoption of the SIP in accordance with the situations discussed below.

1. *Isolated Rural Areas.*[69] The EPA will allow additional time for the SIP submittal from those isolated rural areas experiencing ozone violations which will not have within the 2-year period air quality information adequate to determine whether or not the area is "self-generating" (see Appendix B for procedures for determining whether an area is self-generating). The EPA expects the complete plan revision to be submitted expeditiously and no later than 3 years from the date of the SIP call. The initial SIP (due in 2 years) must contain the minimum RACT requirements for a rural area described in section IV.A., below, as well as the requirements described in section VI. and Appendix D, below. Additionally, the initial SIP must include a schedule for completing the air quality monitoring, self-generation determination, modeling analysis and a commitment and schedule for developing and adopting additional measures which the modeling analysis shows are needed.[70]

Areas found to be nonself-generators must summarize and submit their air quality analyses in the second submittal along with an identification of the upwind area(s) determined to be responsible for violations in the isolated rural area.[71] The EPA will require the upwind area to develop an expeditious schedule for the area to revise its SIP to account for the downwind isolated rural area. This schedule will call for the SIP revision in the upwind area within 1 year of the submittal of the air quality analysis for the isolated rural area.[72]

Areas found to be self-generators will be required to submit a SIP expeditiously which satisfies the same requirements as an area within an MSA. The EPA will require the State to establish an expeditious timeframe for the SIP submittal, which will extend no more than 3 years from the date of the SIP call.

2. *Areas Needing "Long-Term" Measures.*[73] The EPA will allow areas needing long-term measures up to an additional 3 years (from the SIP due date) to complete the formal adoption of all measures. The initial submittal (due in 2 years from the SIP call) for these areas must include: (1) The demonstration of attainment; (2) an identification of long-term measures (with expected emission reduction benefits), along with a description of, and commitment to, the process and schedule to complete all planning, review, and decision steps leading to adequate adoption of those measures; and (3) full adoption of all other measures. The EPA will work with these areas to determine the most reasonably expeditious timeframe for the second submittal, which may extend no more than 3 years from the SIP due date.

Although the initial submittal must identify the long-term measures and commit to the process and schedule for developing and adopting these measures, EPA recognizes that during evaluation and consultation steps, options may need to change. Therefore, EPA will allow the State to substitute measures or modify these long-term measures in the second SIP submittal or subsequent updates as long as the modified or substitute measures yield comparable emission reductions. Furthermore, the emission reductions from the substitute measure must be consistent with the control strategy in showing that applicable rates of emission reduction progress will be achieved.

III. Requirements for Modeled Demonstration of Attainment

A. Models

The input data and assumptions used in ozone and CO models must be adequately documented in the SIP.

1. *Ozone.* The preferred model is the Urban Airshed Model. The second acceptable model is the Empirical Kinetic Modeling Approach (EKMA).

At a minimum, EPA requires that areas use the city-specific EKMA approach. The EPA will not approve plans based on linear or proportional rollback techniques. The EPA's guidance for EKMA is contained in "Guideline for Use of City-Specific EKMA in Preparing Post-1987 Ozone SIP's" (see Appendix H). Appendix I contains data base requirements for EKMA and a brief description of the model.

Areas should not use the wind trajectory analysis, previously known as Level II, because of poor past performance. The EPA's guidance on EKMA has been revised to be more explicit for using wind data in EKMA.

The EPA has also revised its guidance to include updated methods for estimating future ozone, nonmethane organic compounds (NMOC), and NO_x transport levels for use in EKMA, which should result in more realistic assumptions concerning reductions of transported ozone.

Use of models other than the Urban Airshed Model or EKMA must be approved by EPA prior to a commitment by the State to its use. Guidance for the Urban Airshed Model is contained in "The SAI Airshed Model Operations Manual," in "Guideline on Air Quality Models (Revised)," and in "Guideline for Applying the Airshed Model to Urban Areas" (see Appendices H and I). The EPA will not allow areas to delay submittal of the attainment demonstration because of time or resource complications resulting from the use of Urban Airshed modeling.

2. *Carbon Monoxide.* States should first determine the scope of the problem, then choose an appropriate model.

The EPA presumes that hotspots lacking any significant areawide contribution are: (1) Limited in number, (2) isolated points of traffic congestion, (3) typically found in areas of relatively low population, and (4) solved through the application of short-term control measures (within 5 years of the SIP due date). If after using these criteria, the State believes that a problem should be preliminarily characterized as a hotspot (or small collection of hotspots) without an areawide contribution, the State first should define an area around the

[69] Defined as counties not included within or adjacent to an MSA. Requirements for non-MSA counties that experience violations and are adjacent to an MSA are discussed above in I.A., "Areas Violating the Ozone NAAQS."

[70] See section IV, "Requirement for Development of Control Strategy" for description of requirements for different types of areas.

[71] Areas that are found to be nonself-generating and that are in the ROM domain will not be allowed to make this identification until the ROM results are available.

[72] Of course, in some cases the upwind areas will already have begun revising their SIP's because of their own nonattainment problem, and may already be accounting adequately in those revisions for effects on all downwind areas.

[73] In this context, long-term measures refer to those which may require complex or extensive planning or review and adoption processes that cannot be accomplished within 2 years. These measures will likely also require considerable time for implementation. As described earlier, areas that cannot adopt enough measures to demonstrate attainment in the short term will become subject to the construction ban. Thus, the following discussion relates to areas that do not show attainment in the short term but are seeking to avoid additional sanctions by adopting measures that will produce attainment by a fixed date in the longer term.

hotspot which contains sources contributing emissions seen by the hotspot monitor, or the model receptor if a hotspot modeling analysis was used. Then, the existence of other likely hotspots in the remaining portions of the county should be determined through monitoring and modeling. The EPA believes that all hotspot control measures can be implemented within the short term (i.e., not later than 4 years after the SIP is due). Hotspot problems requiring longer time periods for correction will be presumed to require areawide measures.[74] Where both hotspot and areawide control measures are applied, the State must perform both hotspot and areawide modeling.

Hotspot Models—For intersections, traffic and emissions should be analyzed using Worksheet 2 of EPA's "Guidelines for Review of Indirect Sources" (Volume 9)—Revised (Second Printing) (see Appendix H) or an equivalent procedure approved by EPA. Dispersion should be modeled using the CALINE3 line source model described in "CALINE3—A Versatile Dispersion Model for Predicting Air Pollution Levels Near Highways and Arterial Streets," 1979. Other models may be used if approved by EPA in accordance with established procedures.

Areawide Models—Either the Urban Airshed Model or RAM are recommended. Guidance for RAM is in "User's Guide for RAM—2nd Edition," 1987. Due to the proportional relationship between CO emissions and air quality, linear rollback also may be used to determine the overall areawide emission reduction percentage needed to attain the NAAQS. Other models, such as APRAC or box models, may be used on a case-by-case basis with EPA approval. The "EPA Guidelines on Air Quality Models" (see Appendix H) or the EPA Regional Office should be consulted for more information on areawide CO modeling.

B. Data Requirements

1. *Ozone*—a. *Geographic Area for Emission Inventory.* As described above, in most cases, EPA will standardize the planning, or demonstration, area for all emission sources as, at a minimum, the boundary of the MSA, or the CMSA (if one exists). In cases where a previous Part D SIP has used a planning area (or section 107-designated nonattainment area) larger than the MSA or CMSA, that larger planning area should be used.

The planning area inventory must include all VOC, CO, and NO_x sources and must represent actual emissions typical of ozone season weekday conditions.[75] Additional requirements are described in the EPA guideline document, "Emission Inventory Requirements for Post-1987 Ozone SIP's" (see Appendix H).

The EPA also requires that States use a 25-mile distance from the MSA/CMSA boundary as a planning guideline and presume that large sources located within this distance may contribute to the nonattainment problem. States must include sources (greater than or equal to 100 tons per year potential to emit [76]) of VOC, CO, and NO_x within this distance in the demonstration area inventory, even if the 25-mile distance extends into another State or MSA/CMSA.

In those instances where a major source is within 25 miles of an MSA/CMSA but resides in an adjacent State, EPA reminds States of the requirements set forth in section 110(a)(2)(E) of the Act. These requirements specify that each State in its SIP shall include provisions adequate to prohibit emissions from stationary sources within the State from preventing attainment in a nearby State. The EPA will review SIP's from States receiving SIP calls to ensure that these requirements are met. A State with a source or sources significantly affecting ambient pollutant concentrations in a nearby State should provide information on the source(s) to the affected State for use in developing the inventory and constructing an attainment demonstration.

If monitoring sites which exceed the ozone NAAQS are located in counties adjacent to, but not within, an MSA/CMSA, EPA will presume that such counties should be treated as extensions of the MSA/CMSA for planning purposes. Such adjacent non-MSA counties should inventory sources as if they were part of the MSA/CMSA, except that the 25-mile planning guideline does not apply to areas outside these adjacent non-MSA counties.

If an area is an isolated non-MSA, the baseline inventory should include at a minimum the county containing the site which exceeds the NAAQS.

b. *Air Quality Data.* Each area must reduce, validate, and summarize in its submittal the most recent 3 years of air quality data available at the time of the notification of SIP deficiency or SIP disapprovals. Generally, this means that all areas receiving SIP calls or disapprovals prior to the summer of 1988 would be required to use data from the 1985, 1986, and 1987 ozone seasons. The EPA would allow 1988 ozone data also to be used in the modeling analysis if the use of such data would not delay the submittal of the SIP.

For EKMA, the data base must meet the requirements described in Appendix I. These requirements and procedures replace those published in the November 14, 1979, **Federal Register** (44 FR 65667), "Data Collection for 1982 Ozone SIP's." Specific and updated monitoring requirements are also described in "Guideline for Use of City-Specific EKMA in Preparing Post-1987 Ozone SIP's."

For the Urban Airshed Model, requirements are specified in "EPA Guideline on Air Quality Models (Revised)," in "SAI Airshed Model Operations Manual," and in "Guideline for Applying the Airshed Model to Urban Areas." A minimum data base to support an Urban Airshed Model application must be determined on a case-by-case basis in consultation with the appropriate EPA Regional Office.

2. *Carbon Monoxide*— a. *Geographic Area for Emission Inventory.* Cities with areawide CO problems should inventory all counties within the MSA/CMSA. Areas whose problems are limited to demonstrated hotspot problems (using procedures described in section III.A.) may inventory smaller areas with the approval of the appropriate EPA Regional Office.

b. *Air Quality Data.* At least one CO monitor must be located in an area representative of expected maximum CO concentrations.

C. *Requirements for Emission Baselines and Projections*—1. *Baselines.* Baseline inventories should be prepared for a 1987 base year. Base year emissions must be on an actual basis, defined as the estimated typical emission factor multiplied by the typical production rate for each source. The EPA will allow States to limit their analysis to reactive VOC emissions.[77]

Previously, States have excluded from modeling 1 or more years of air quality data where emissions changed significantly from one year to the next during the required 3-year period of air quality data. The EPA is eliminating such exclusions. Instead, and in such cases, attainment emissions levels should be calculated by applying the modeled percent reduction for each year

[74] Long-term areawide CO problems are subject to rates of progress requirements (see section IV.B.).

[75] Actual emissions are defined in section III.C. of this policy.

[76] As defined in 40 CFR 51.165(a).

[77] Reactive VOC's are those not listed among the 11 negligibly reactive VOC's (see following **Federal Register** July 8, 1977, 42 FR 35314; June 4, 1979, 44 FR 32042; May 16, 1980, 45 FR 32424; and July 22, 1980, 45 FR 48941).

of air quality data in the base period to the corresponding year's emissions. The overall attainment emissions level is the fourth highest of these levels.[78] This procedure is further described in "Guideline for Use of City-Specific EKMA in Preparing Post-1987 Ozone SIP's."

Base year inventories for ozone in MSA/CMSA and adjacent non-MSA counties exceeding the NAAQS shall individually list all VOC sources with a potential to emit at least 10 tons per year and CO and NO_x sources with a potential to emit at least 100 tons per year. Sources below these amounts should be aggregated by source category. In the 25-mile distance outside the MSA/CMSA, VOC, CO, and NO_x sources with a potential to emit 100 tons per year shall be listed individually. Baseline inventories for sources affected by existing measures must also reflect appropriate effectiveness levels as described below.

2. *Credit for Rule Effectiveness*—a. *Ozone.* For both new and existing rules, EPA will allow States in constructing their emission reduction projections (and, for existing rules with past compliance dates, in constructing baseline emission levels), to assume not more than 80 percent of full effectiveness unless higher levels are adequately demonstrated, as described below. If lower levels are demonstrated, or found through upcoming State/EPA effectiveness studies, the State must use these levels. To assume an 80 percent level without an evaluation, States should be adequately implementing the requirements for improving the effectiveness of existing rules, as described in this notice under "Maximizing Effectiveness of Existing Program," including any programs for future corrective actions.

To assume more than 80 percent effectiveness, the SIP must contain a rule-effectiveness evaluation which meets EPA criteria and which demonstrates that the higher number has been achieved in practice. If such an evaluation has been performed, the SIP may take credit for whatever additional reductions were determined to be appropriate by the effectiveness evaluation. The rule-effectiveness evaluation must be performed on the rule for which credit is claimed and in the area where the rule has been implemented. Guidance on rule effectiveness evaluations is contained in the EPA document "Guideline for Evaluating Effectiveness of VOC Regulations." (See Appendix H)

The EPA expects that reductions will be achieved as a result of corrective actions from rule-effectiveness evaluations. Since neither the amount of this reduction nor the effectiveness level of the rule will be known, EPA will not allow States to assume existing control measures to be more than 80 percent effective in the base year prior to the evaluation. The base year inventory must reflect this assumption.

If evaluations have been performed for existing sources, the base year inventories of such sources must reflect the effectiveness level determined by the evaluation.

b. *Carbon Monoxide.* For both new and existing rules, States are allowed, in constructing their emission reduction projections, to assume not more than 80 percent of full effectiveness unless higher levels are adequately demonstrated, as described below. If lower levels are demonstrated, States must use these levels. In order to assume an 80 percent level without an evaluation, EPA expects States to be adequately implementing the requirements for improving the effectiveness of existing rules, as described in this notice under "Maximizing Effectiveness of Existing Programs," including any programs for future corrective actions.

For a SIP to assume full effectiveness for a future I/M program, it must show that the I/M rules are fully consistent with the assumptions used in calculating the emission reductions in the appropriate MOBILE model, and satisfy the ten elements described in EPA's Final Policy-Criteria for Approval of 1982 Plan Revisions (46 FR 7185, January 22, 1981). For transportation control measures (TCM's), the SIP must show through evaluation or study that the assumptions used to predict future reductions, such as changes in VMT, mode shifts, and speed changes, have occurred from the implementation of the TCM for which credit is claimed.

Unless an effectiveness evaluation has been performed, existing control measures may not be assumed to be more than 80 percent effective in the base year and the base year inventory should reflect this assumption. If evaluations have been performed for existing control measures, the base year inventory for sources affected by existing regulations must reflect the effectiveness level determined by the evaluation.

3. *Projection of Emissions Inventory.* At a minimum, inventory projections must be made for the attainment year. If this is more than 3 years from the base year, interim projections at 3-year intervals must be made of the full inventory. Long-term areas subject to the percent reduction requirements must make the first interim inventory projection 5 years after the base year.[79] These areas should then make 3-year interim projections starting from the 5-year projection and extending to the attainment date. That is, the inventory projections would include emissions for 1992, 1995, 1998, etc.

Emissions from individual sources listed in base year inventories shall be projected individually to the attainment year and shall include any growth or production changes for the source. Interim-year projections for individual sources are also required and are described in the EPA guideline documents "Revised Guidance for Tracking Reasonable Further Progress in Ozone/CO Control Programs" and "Emission Inventory Requirements for Post-1987 Ozone/CO SIP's" (see Appendix H for complete reference).

Projected emissions must be calculated on an allowable emissions basis, which EPA will define as the product of an enforceable emission rate (e.g., pounds of VOC per gallon of solids applied) and the expected typical production rate (e.g., gallons of solids applied per day) in the future year (typical ozone season weekday). Projected emissions must then be adjusted for effectiveness, using procedures described above under "Credit for Rule Effectiveness."

Growth factors used in projecting production rates must be listed for each point source identified in the baseline and adequately documented. Population projections and other forecasts used for determining growth rates and areawide emission estimates must be consistent with population projections developed in accordance with EPA's cost-effectiveness guidelines for wastewater treatment facilities (40 CFR Part 35, Subpart E, Appendix A). Projected year inventories must be developed in accordance with EPA's "Emission Inventory Requirements for Post-1987 Ozone/CO SIP's."

IV. Requirement for Development of Control Strategy

Introduction

Once the State has determined the percent reduction in baseline emissions needed to attain the NAAQS over the relevant period(s) of time, it must

[78] Assuming 3 years of complete air quality data. If fewer than 3 years of complete data exist, then the third or the second highest attainment emissions level must be used.

[79] These requirements are described in section IV.B. Requirements for Attainment Date and Expeditious Attainment.

identify control measures that will meet this requirement, and that will result in attainment as expeditiously as practicable and by a date certain. Implementation of existing and proposed national measures by EPA and affected industries will aid States in meeting the control targets. In the past, due to the imprecision inherent in control targets for ozone, EPA has required minimum reasonably available levels of control of certain types of VOC sources. This policy does not alter those requirements. The EPA shall require that any of these requirements which may not have already been implemented be implemented expeditiously but not later than the end of 1992.

Beyond the national measures and the required State measures, EPA will require minimum rates of progress for areas that cannot demonstrate attainment in the short term. Such areas cannot count the Federal measures or any previously required State measure in determining compliance with the minimum rate of progress.

Areas that can demonstrate attainment in the short term also will be required to demonstrate maintenance for up to 10 years from the SIP due date.

A. *Federally-Implemented Measures, Federally-Prescribed Measures and Technical Support.* Several measures for controlling emissions will be instituted by EPA as national measures. Other measures may be prescribed by EPA for State adoption, and the States will be required to adopt and implement these measures in the near term.

1. *Federally-Implemented Measures.* The States may assume that benefits will continue for the following federally-implemented measure:

(a) The existing FMVCP, which ensures that new automobiles are designed to meet certain exhaust limits.

In addition, States would realize additional benefit from other national measures that EPA has proposed to implement. They are:

(a) Regulations to control Reid Vapor Pressure (RVP) to reduce the volatility of gasoline and thereby reduce evaporative emissions from vehicles (proposed at 52 FR 31274, August 19, 1987);

(b) Regulations to require reductions of automobile refueling emissions through "onboard" carbon canister control technology on automobiles (proposed at 52 FR 31162, August 19, 1987);

(c) Regulations proposed for hazardous waste treatment, storage, or disposal facilities (TSDF) (proposed at 52 FR 3748, February 5, 1987) and other regulations for TSDF now being developed.

2. *Federally-Prescribed Measures.* The EPA requires that all control measures adopted as part of previous EPA-approved SIP revisions remain in effect while the area is violating the NAAQS and until such time as the measures are modified in accordance with established SIP revision procedures. This requirement also applies to previous regulations not specifically required under today's proposed policy, for example, where pre-1987 rural nonattainment areas were required to implement Group I and II CTG's for major sources, but which are now adjacent non-MSA areas and have no new control requirements. In particular, nonattaining areas in the Northeast "corridor" must maintain previously adopted and EPA-approved regulations since many areas in this region might eventually need to employ minimum or additional control measures to solve the Northeast problem.

a. *Stationary Source RACT.* Rules requiring the application of RACT for all sources covered by Groups I, II, and III of EPA's CTG's must be included in urban and self-generating rural ozone nonattainment areas designated in 40 CFR Part 81. Where previously required (see Table I), EPA will continue to require the application of RACT to sources not covered by a CTG that have the potential to emit 100 or more tons per year. Also, an area issued a SIP call because it has newly been found to be nonattainment will be required to adopt the Groups I, II, III CTG source rules for the "central" county(ies) [80] containing the measured nonattainment problem (or, in the case of self-generating rural areas, to the county measuring the non-attainment problem). At a minimum, all nonself-generating rural nonattainment counties are required to adopt RACT for Groups I and II CTG sources which have the potential to emit (uncontrolled) 100 tons/year emissions or greater.

For most areas, the EPA will continue existing policy requirements regarding issuance of any new CTG's. That is, areas subject to post-1987 policy requirements except truly marginal nonattainment areas [81] and isolated rural nonself-generating areas must adopt an appropriate enforceable regulation for each source category covered by a new CTG, presumptively reflecting guidance given by the CTG. Truly marginal nonattainment areas are exempt from this requirement on the beliefs that (1) such areas will attain in the near term due to reductions from federally-implemented measures, pre-1987 requirements (such as CTG's I, II, and III) and enhanced effectiveness of pre-1987 requirements and (2) it is unlikely that such areas could adopt and implement new CTG's in sufficient time to advance the attainment date. As a safeguard, EPA requires these areas to include in their SIP's a commitment that, if attainment is not achieved by the projected date, they will adopt new CTG's (including any new CTG's issued since today's proposal). The regulation must apply as follows: For areas currently designated as nonattainment and for areas redesignated to attainment but measuring violations of the ozone standard, the regulations will apply in the section 107 designated (or previously designated) area, or the control area included in the previously approved Part D SIP, if applicable; for newly found nonattainment areas these regulations will apply to the "central" county(ies). Satisfaction of these requirements requires adoption by each subsequent January of additional regulations for sources covered by CTG's issued by the previous January.

b. *Enhanced I/M.* [82] The EPA has considered the potential for greater VOC and CO reductions from vehicle I/M programs, and believes that substantial VOC and CO reduction enhancement is available for areas with relatively severe and/or long-term nonattainment problems. [83] The EPA, therefore, is considering a variety of alternative approaches with respect to enhanced I/M. One option is not to establish a specific enhanced I/M requirement but instead, to allow States to consider enhanced I/M, along with other measures, in deciding how to meet the 3 percent average annual reduction requirement included elsewhere in this policy. Another option is to require long-

[80] As defined by the Bureau of the Census, a central county has at least 50 percent of its population residing within the urbanized area.

[81] As defined in section IV.B., truly marginal nonattainment areas are those with design values below 0.16 ppm ozone (0.155 ppm where data are reported in 3 decimal place) or 17 ppm CO and able to demonstrate attainment in the short term by relying only on emission reductions from (1) federally-implemented measures, (2) measures required for the area in EPA's pre-1987 guidance, and (3) other measures adopted by the State and approved by EPA on or before publication of today's proposal.

[82] The EPA is considering a variety of options regarding enhanced I/M, including establishing a specific enhanced I/M performance level for some nonattainment areas as well as relying on the 3 percent reduction requirement to force consideration of enhanced I/M. At other places in this document, the distinction between these options may not always be expressed, but is intended through this policy.

[83] A long-term nonattainment area is an area where attainment will not be demonstrated within 3 years of the SIP approval date [period prescribed in section 110(a)(2)(A)].

term urban ozone and CO nonattainment areas to implement changes to their I/M programs to raise the performance level (i.e., the VOC and/or CO reduction effectiveness) of their programs well above that of the basic I/M requirement.

If a separate enhanced I/M requirement is established, the urbanized portions of SIP call areas with ozone design values of 0.16 parts per million (ppm) or above and/or CO design values of 17 ppm or above ("severe nonattainment areas") will be considered to be subject to this requirement.[84] (For determining areas subject to this requirement and other requirements employing these "cutpoints," EPA will use the rounding convention that values ending in 5 through 9 round up, and values ending in 1 through 4 round down. Hence, an ozone design value of 0.155 ppm becomes 0.16 ppm and a CO design value of 16.5 becomes 17 ppm.) Also, under the option being considered, an area with design values below these levels would be required to implement enhanced I/M if the modeled attainment demonstration for the area shows that it is a long-term nonattainment area.[85] Urbanized areas with a population less than 200,000 would be exempt from these requirements for enhanced I/M. Such areas could still use enhanced I/M reductions to meet attainment or show RFP if they desire.[86]

Rather than require States to adopt specific enhancements from any particular categories of possible improvements, EPA would define the enhanced I/M requirement, if adopted, in terms of a numerical performance level which may be achieved by any combination of program elements. The specific numerical performance level EPA is inclined to select and other pertinent information are discussed in Appendix E.

For an enhanced I/M requirement, if adopted, EPA is planning to retain the urbanized area as the base for geographic coverage. Emission reductions obtained from vehicles outside of the urbanized area but within the MSA/CMSA would not count toward meeting the enhanced I/M performance level, if adopted, however, but would assist the area in meeting its overall emission reduction requirements for the MSA/CMSA.

3. *Technical Support*— a. *Alternative Control Technology Documents.* From time to time, it may be appropriate to publish documents that provide technical information about the control of individual source categories. The documents would identify the emission control technologies that are available for a particular source category along with information on process operation, control efficiency, costs, and other impacts of control. A State could use this information as the basis for an emission limit based on the control technology that is most appropriate given the local needs and circumstances. The ACT document would not specify a presumptive RACT nor a minimum level of control that would be required.

b. *Control Technology Center.* The Control Technology Center (CTC) is a program that can provide technical assistance to State and local agencies on individual problems that pertain to control technology and source testing. A hotline has been established to respond to requests for assistance and provide a quick response to questions. Callers will be put in contact with EPA engineers who have the most knowledge about the topic in question. The CTC hotline provides access to available expertise in both the Office of Air and Radiation and the Office of Research and Development, whichever can best fulfill the needs when an individual request for assistance occurs. This service is available to all State and local agency staff. The CTC hotline number is (919) 541–0800.

B. *Requirements of Expeditious Attainment Dates and Reasonable Progress.* The EPA will approve only those post-1987 SIP revisions that demonstrate attainment of the ozone and CO standards within 3 years of the date of EPA's approval [with a possible 2-year extension under section 110(e)]. Thus, EPA will impose the applicable construction ban in any designated nonattainment area lacking such a demonstration.[87] Areas that cannot demonstrate attainment within the 3- or 5-year period could also become subject to other sanctions if they fail to make reasonable efforts to submit a plan showing attainment by a date suitable for the area, and reasonable progress in the interim. The following discussion describes the requirements for progress and attainment dates for both long- and short-term nonattainment areas.

1. *Areas Demonstrating Attainment Within the 3-Year Period.* As indicated above, the required attainment dates for post-1987 planning are keyed to the date EPA approves the SIP revision [see sections 110(a)(2)(A) and 110(e)]. For purposes of planning, EPA suggests that States developing plans to produce attainment in the short term after 1987 assume that EPA's review and approval of their plans will be complete within 1 year from the date the plans are due. This would mean that, to receive approval, the plans would have to demonstrate attainment within 4 years of the date the plans are due [1 year for EPA approval plus the 3-year period in section 110(a)(2)(A)].

Consistent with section 110(a)(2)(A) and, for Part D areas, section 172, EPA will require the SIP's to demonstrate attainment as expeditiously as practicable, even if that date would arrive before the end of the 3-year period. The EPA will assume that short-term nonattainment areas that apply the applicable minimum control measures (no later than the end of 1992) described in the preceding section are employing all "practicable" measures. Thus, only if those measures, combined with the relevant federally-implemented measures, would advance an area's projected attainment date from the 3-year date would EPA require the area's SIP revision to show attainment by that earlier date.

Plans for areas that are still subject to the Part D planning requirements must also, as required by section 172(b)(3), be adequate to produce RFP. This means that they must, as required by the definition of RFP in section 171(1), produce "annual incremental reductions" in emissions, including "substantial reductions in the early years following approval" of their plans, sufficient to provide for timely attainment. Plans for these areas should demonstrate that their control strategies

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[84] "Urbanized area" is an area defined by the Bureau of the Census according to specific criteria, designed to include the entire densely settled area around each city. An urbanized area must have a total population of at least 50,000. The urbanized area criteria define a boundary based primarily on a population density of at least 1,000 persons per square mile, but also include some less densely settled areas within corporate limits and such areas as industrial parks, railroad yards, golf courses, and so forth, if they are adjacent to dense urban development.

[85] Of course, areas that received an attainment date extension under Part D must implement at least the basic I/M program required by section 172(b)(11)(B) of the Act even if they can demonstrate near-term attainment without such a program. Similarly, areas that were required by EPA's 1984 guidance on the correction of Part D SIP's to adopt a basic I/M program (because of the inability to demonstrate attainment otherwise by the end of 1987) must implement a program of at least that stringency even if they can demonstrate near-term attainment without it.

[86] RFP (for some areas called the "reasonable efforts progress requirements) is described in section IV.B.

[87] For ozone nonattainment areas, the ban would apply to major new sources and major modifications of existing sources of VOC's, as defined at 40 CFR Part 52 (see, specifically, 40 CFR 52.24). For CO nonattainment areas, the ban would apply to major new sources and major modifications of existing sources of CO.

will provide for attainment as expeditiously as practicable. Such demonstrations should show that earlier implementation of control measures would not significantly advance the attainment date.

As a means to ensure timely attainment, EPA will require all areas (including those with short-term demonstrations) to achieve their required emission reductions at a minimum rate (described below) unless the area truly has a marginal nonattainment problem.[88] The EPA will define an area's problem as truly marginal if the area has a design value below 0.16 ppm ozone or 17 ppm CO and the area can demonstrate attainment in the short term by relying only on emission reductions from (1) federally-implemented measures, (2) measures required for the area in EPA's pre-1987 guidance, and (3) other measures adopted by the State and approved by EPA on or before publication of today's proposal. In all other cases, the area must achieve emission reductions from an adjusted base year inventory at an average rate of at least 3 percent per year commencing the year of the SIP call. For this purpose, the base year inventory would be adjusted by subtracting from it the emissions that would have been eliminated by the end of 1987 if the area had implemented all of the applicable requirements of EPA's pre-1987 policies and the portions of the area's SIP that were approved at or before the SIP call or overall disapproval. (See Table I, "Summary of Ozone and Carbon Monoxide SIP Requirements" in discussion of policy issues.) Reductions occurring in the period before the date the SIP is due, but after the base year, will be creditable (i.e., they are creditable if they are not included in one of the three categories listed above) toward the annual reduction requirement. All reductions creditable toward the 3 percent annual reduction requirement must be derived from enforceable regulations or other enforceable measures. Any reductions which are counted toward the requirement and are due to turndowns in production (or shutdowns) must be submitted as SIP revisions and be federally approvable. Emission reductions from measures which are included in the "test" for truly marginal are not creditable toward the 3 percent requirement. As discussed below under "Areas That Cannot Demonstrate Attainment Within the 3-Year Period," the first opportunity to assess compliance with this requirement will be for the period 1988–1992, reported on in 1993. For example, an area needing emission reductions of 17 percent (beyond the reductions from measures listed above for the "marginal test"), would have to achieve reductions of 15 percent by the end of 1992 and the remainder thereafter at an average rate of 3 percent per year until attainment (i.e., achieve the remaining 2 percent by the end of 1993). An area needing additional reductions of, say, 7 percent, would be required to achieve those reductions by the end of 1992.

In the above demonstrations of attainment, the areas must account for any growth in mobile or stationary source emissions expected to occur between the base year and the attainment date. If reductions due to turndowns in production (or source shutdowns) are used to demonstrate attainment, or are used to meet the 3 percent annual reduction requirement, they must be submitted as SIP revisions and must be federally enforceable.

The EPA also will require areas that can demonstrate near-term attainment to show that their plans will provide for maintenance of the standards well into the future despite the emissions growth projected to occur. Plans for these areas must contain projections of emissions at least 10 years from the SIP due date and commitments and schedules for any additional measures that may be needed to ensure maintenance of the standards. This requirement will also apply to any area with a projected attainment date before the end of 1995.

Areas projecting near-term attainment must include in their SIP's a commitment that, if EPA finds that they do not actually attain the standard by their projected attainment dates, they will meet the additional requirements including the adoption of enhanced I/M and the achievement of an average 3 percent emission reduction annually (if not already required) commencing the calendar year when EPA makes the finding. These areas will also be subject to whatever additional future requirements EPA ultimately finds are needed for long-term areas to provide for expeditious attainment.

The EPA will approve plans that meet the requirements of this policy for demonstrating near-term attainment of the ambient standards.

2. *Areas That Cannot Demonstrate Attainment Within the 3-Year Period.* As described above, areas subject to the construction ban because they cannot demonstrate attainment of the standards by the end of the 3-year period set forth in section 110(a)(2)(A) will be able to avoid the additional discretionary sanctions if they demonstrate reasonable efforts to submit adequate plans. The EPA will define such efforts as the submittal, according to the planning schedule described earlier, of a plan that will produce reasonable progress toward attainment by a fixed date suitable for the area. As described below, the "reasonable efforts" attainment date for each area will depend on the degree of progress made each year. For that reason, the discussion below focuses first on the amount of progress EPA will regard as reflecting reasonable efforts for each pollutant, and then on the attainment date that would reflect such efforts.

a. *Progress Requirements*—i. *Ozone.* For ozone, EPA intends to define a "reasonable efforts" level of progress for an area as an average annual emission reduction of at least 3 percent of an adjusted base year (typically 1987) emissions inventory for the demonstration area, commencing the year of the SIP call. As in the case of the progress requirements for non-marginal nonattainment areas with short-term attainment dates, States cannot credit toward the 3 percent any reductions from (1) the federally-implemented control measures, (2) measures required for the area in EPA's pre-1987 guidance, and (3) other measures adopted by the State and approved by EPA on or before publication of today's proposal. For this purpose, the base year inventory would be adjusted by subtracting from it the emissions that would have been eliminated by the end of 1987 if the area had implemented all of the applicable requirements of EPA's pre-1987 policies and the portions of the area's SIP that were approved at or before the SIP call or overall disapproval. (See Table I, "Summary of Ozone and Carbon Monoxide SIP Requirements" in discussion of policy issues.) Reductions occurring in the period before the date the SIP is due, but after the base year, will be creditable (i.e., they are creditable if they are not included in one of the three categories listed above) toward the annual reduction requirement. All reductions creditable toward the 3 percent annual reduction requirement must be derived from enforceable regulations or other enforceable measures. Any reductions which are counted toward the requirement and are due to turndowns in production (or shutdowns) must be submitted as SIP revisions and be federally enforceable.

In general, EPA believes that the earliest practical time to assess

[88] As stated above in section IV.A., any area with a design value at or above 0.16 ppm for ozone or 17 ppm for CO must also implement an enhanced I/M program.

compliance with the 3 percent annual requirement will be the fifth year from the SIP call: 2 years for SIP development and submittal and 3 years for source compliance. Therefore, the State annual progress report (discussed below in section V.A.) for 1992 (due in 1993) must show that creditable emissions of at least 15 percent of the base year inventory (an average of 3 percent per year in 1988–1992) have been achieved. Thereafter, each 3-year inventory updates (see section V.A.) must show that an additional 9 percent emission reduction has been achieved.[89]

So long as federally-implemented measures continue to achieve a net emissions reduction, considering growth in sources subject to those Federal measures, the State will not be required to account for such growth in meeting the 3 percent requirement. However, States must account for all other source growth during this period. Once the Federal measures no longer provide a net benefit, all growth, including that from sources affected by Federal measures, must be factored into the 3 percent requirement.

Areas that cannot demonstrate attainment within the 3-year period in section 110(a)(2)(A) may seek to avoid the construction ban by demonstrating attainment within the extended period allowed by section 110(e). As indicated earlier, that section permits a 2-year extension of the attainment date only if:

(a) One or more emission sources (or classes of moving sources) are unable to comply with the requirements of such plans which implement such primary standard because the necessary technology or other alternatives are not available or will not be available soon enough to permit compliance within such 3-year period, and

(b) The State has considered and applied as a part of its plan reasonably available alternative means of attaining such primary standard and has justifiably concluded that attainment of such primary standard within the 3-years cannot be achieved.

The "available alternatives" in paragraph (a) are defined as only those that are "reasonably available" within the meaning of that term in paragraph (b). The "reasonably available alternative means" of meeting the standard is defined as the set of measures and the emission reduction percentage described above as applicable to other long-term ozone nonattainment areas. Thus, if a State can demonstrate that those measures will not produce attainment within the 3-year period and the State actually adopts and implements those measures in that period, it will be eligible for the 2-year extension. The State would not be subject to the construction ban if it could demonstrate attainment in the 2-year period.

ii. *Carbon Monoxide.* For long-term CO nonattainment areas, EPA defines "reasonable efforts" as two sets of measures—one for hotspots and one for areawide problems.

For hotspots, defined for these purposes as localized problems with localized solutions (such as traffic changes at the hotspot locations), EPA will require the State to include in its SIP revision enforceable commitments (1) to implement the localized solutions for all currently known hotspots by the end of the 3-year period and (2) for all hotspots identified for the first time within that period or thereafter, to implement the localized solutions within 3 years of the identification.

For areas that have areawide CO problems, "reasonable efforts" are defined as, in addition to any hotspot requirements, an average annual emission reduction, resulting from measures other than (1) the federally-implemented control measures, (2) any measures required for the area in EPA's pre-1987 guidance, and (3) other measures adopted by the State and approved by EPA on or before the date this policy was proposed, of at least 3 percent of an adjusted base year emissions inventory, adjusted as described above for ozone commencing the year of the SIP call. A list of available measures that States should consider in deciding how to meet the percent reduction requirement appears in Appendix C.

All reductions creditable toward the 3 percent annual reduction must be derived from enforceable regulations or other enforceable measures. Any reductions which are counted toward the requirement and are due to turndowns in production (or shutdowns) must be submitted as SIP revisions and be federally approvable.

As stated above for ozone, generally the earliest practical date to assess compliance with the 3 percent reduction requirement will be the fifth year after the SIP call. Therefore, the State annual progress report (see discussion below in section V.A.) for 1992 (due in 1993) must show that creditable emission reductions of at least 15 percent (an average of 3 percent per year in 1988–1992) have been achieved. Thereafter, the 3-year inventory update (see section V.A.) must show that an additional 9 percent emission reduction has been achieved.[90]

So long as federally-implemented measures continue to achieve a net emissions reduction, considering growth in sources affected by those Federal measures, States will not be required to account for such growth in meeting the 3 percent requirement. However, States must account for all other source growth during this period. Once the Federal measures no longer provide a net benefit, all growth must be factored into the 3 percent requirement.

As in the case of ozone, EPA will use the requirements described above in Table I as its definition of "reasonably available alternative means," for the purpose of its decisions on whether to grant extensions to CO nonattainment areas under section 110(e).

b. *Attainment Dates.* The attainment dates that EPA believes will reflect "reasonable efforts" for long-term ozone and areawide CO nonattainment areas are the dates on which attainment of the relevant standard is projected to occur (i.e., the projected emissions inventory is equal to or below the inventory level needed for attainment) if the required level of progress is achieved. Thus, the applicable "reasonable efforts" attainment date for an area will turn on the percent reduction required. Procedures (including a worksheet) describing how States should determine attainment dates for both short-term and long-term areas are contained in Appendix K, "Determining Attainment Dates." For areas demonstrated to be limited to CO hotspot problems and their solutions, the attainment date is the date (presumed to occur within the 3-year period) by which all necessary hotspot control measures will be implemented.

C. *Measures Selected By The States—1. Stationary Source Control Measures.* Several large point source categories of VOC emissions have not been covered by CTG's, yet are likely amenable to control. States which need large VOC reductions should consider developing regulations for these sources since it may be difficult or impossible for States to achieve the required emissions reduction if such sources are left uncontrolled.

In addition, area sources of VOC can be major contributors to emissions. Such sources have often not been controlled

[89] Where applying an annual 3 percent reduction results in expected attainment between 3-year projections, the reduction remaining to be achieved after the previous 3 year-period must be achieved by the year in which attainment is projected.

[90] Where applying an annual 3 percent reduction results in expected attainment between 3-year projections, the reduction remaining to be achieved after the previous 3-year period must be achieved by the year in which attainment is projected.

in the past, and offer an opportunity for significant reductions.

Appendix C lists a number of specific industries and area source categories which States should examine to see if reductions may reasonably be achieved from those types of sources. This list is neither exhaustive nor prescriptive and States should thoroughly examine other potential measures in their local areas to determine what emission sources are available for control in order to meet the required reduction.

2. *Air Toxics Considerations.* Under today's notice, State agencies are encouraged to consider air toxics in selecting control measures for their ozone SIP's. The EPA presumes that State plan submittals will be coordinated between the air toxics and ozone programs. Such coordination will be considered by the EPA during review of SIP revisions. The EPA is developing guidance to assist States in their assessment of air toxics benefits of possible ozone strategy measures.

3. *Transportation Control Measures (TCM's).* The EPA believes that many metropolitan areas, of necessity, will have to examine TCM's and select those measures that contribute to meeting the required rate of progress and help to offset expected mobile and stationary source growth, and to the extent necessary to provide for attainment and maintenance. The TCM's in SIP's must be submitted in an enforceable adopted form (see discussion below regarding requirements for adoption). Appendix C contains some TCM's that States should examine to see if reductions may reasonably be achieved. The Appendix C TCM's are those that have been evaluated or implemented in certain areas, included in Part D SIP's, or that EPA believes may be necessary in areas needing large reductions in mobile source CO, VOC, or NO_x emissions.

4. *Requirements for Adoption of Transportation-Related Control Measures.* The TCM's are to meet the following criteria in order to be considered as properly adopted. The SIP must contain the following:

(1) A complete description of the measure and its estimated emission reduction benefits must be provided;

(2) Evidence that the measure was properly adopted by the jurisdiction(s) with legal authority to commit to and execute such program (e.g., Attorney General's certification of adoption);

(3) Evidence that funds to implement the measure are obligated or on an acceptable schedule;

(4) Evidence that all necessary approvals have been obtained, from all appropriate governmental entities, including State highway departments where applicable;

(5) A schedule for completion of planning, engineering, development, start of construction, if applicable, and for start of operation which has been adopted by the implementing agency in an appropriate enforceable form; and

(6) A description of the monitoring program to assess the effectiveness of the measure and to allow for in-place corrections or alterations to obtain the full effectiveness.

The EPA recognizes that the 2 years allowed for submission of the initial plan may not be sufficient to allow for the proper adoption of long-term measures. Where complete, "up front" adoption is not possible, EPA will require that the initial submittal identify the measures and schedules for completing the adoption process, estimate expected emission reduction benefits, and indicate when such reductions are to occur.

Along with the identification of the measures and schedules, the initial submittal is to include: (1) A description of the process to complete all planning, funding, review, and decision steps leading to adoption; (2) a schedule of those steps: (3) a commitment to carry out the process leading to the adoption of these or appropriately substituted measures.

The schedule must commit to implement the measure as expeditiously as practicable consistent with the time required to advance the measure through all planning and programming steps to full scale implementation, including the time required for construction, if applicable.

For measures unable to be fully adopted, EPA will require that the adoption of the measure identified in the initial submission be completed in the most expeditious manner but not to exceed 3 additional years (see section 11, Planning Schedules). The initial SIP submittal must include legal commitments by all agencies, boards, etc., responsible for funding, construction, operation, enforcement, and monitoring of the measures. In addition, EPA shall require that the SIP contain a certification by the State Attorney General that the commitments included in the SIP are properly adopted by the jurisdiction with the legal authority to implement the measure.

The EPA recommends that, to the extent possible, the agencies previously designated under section 174 for the preparation of Part D SIP's be retained. However, in all cases, the State must adequately document that a satisfactory process has been carried out pursuant to section 121 for consultation with general purpose local governments, designated organizations of elected officials of local governments, and any Federal Land Manager having authority over Federal land to which the SIP applies.

D. *Role of Nitrogen Oxides* (NO_x). The EPA believes that, in some circumstances, NO_x control may be beneficial in reducing ozone levels. Therefore, States with post-1987 ozone SIP's are required to evaluate locally-implemented NO_x control where the median ambient NMOC/NO_x ratio is equal to or above 10:1. Guidance describing the technical requirements for the evaluations is contained in "Consideration of NO_x Control in Ozone SIP's," EPA, September 1987 (Draft). Upon completion of the evaluation, States may proceed to identify and, if appropriate, implement NO_x measures which will supplement VOC controls and produce progress toward attainment (including ultimate attainment) of the ozone NAAQS as expeditiously as a strategy which did not rely on State-adopted (or locally-adopted) NO_x measures. States implementing NO_x measures must determine a minimum rate of NO_x emission reduction which will result in attainment as expeditiously as a VOC-only strategy.[91] The procedure for this is as follows: (An example demonstrating the application of this procedure can be found in Appendix L.)

1. Determine the modeled VOC reduction target necessary to attain based on a VOC-only strategy and whatever NO_x emission changes are expected if the State implemented no NO_x measures. Using the procedures contained in Appendix K, find the attainment year for the VOC-only strategy at the required 3 percent annual rate of progress.

2. Determine VOC and NO_x reduction targets necessary to attain with a VOC/NO_x strategy, including the NO_x emission reductions expected from the NO_x strategy.

3. Find the required annual NO_x reduction by dividing the reductions expected from locally implemented NO_x measures by the number of years from the date of the SIP call to the attainment date from Step 1. The NO_x reductions (or increases) expected to occur from

[91] For determining compliance with this rate, EPA will not require States to account for growth in sources affected by federally-implemented NO_x measures (i.e., FMVCP) so long as these measures continue to achieve a net emission reduction considering the effects of such growth. However, States must account for all other source growth during this period. After this period, all growth must be considered in determining compliance with the rate.

events other than the locally-adopted measures should not be included in determining compliance with the annual NO_x reduction requirement.

4. Adjust the required annual VOC rate of progress such that the locally-adopted VOC measures plus whatever emission changes projected to occur in nonmobile VOC emissions occur at a uniform rate from the date of the SIP call to the attainment date determined in Step 1.

The annual VOC and NO_x reduction requirements may be rounded to the nearest tenth of a percentage point. As in the case of VOC, EPA will use initially the fifth year from the SIP call, and subsequently at 3-year intervals to determine compliance with these requirements. For this purpose, States must round the 5-year (and 3-year) reduction requirements to the nearest higher percentage point. When attainment is projected to occur before the end of a 3-year period, the balance of the reduction required to attain is due by the end of the year in which attainment is projected.

In addition to the above procedural requirement, measures in an NO_x control strategy must meet all other requirements appropriate for VOC control measures (e.g., measures adoption, tracking, and reporting of compliance).

E. *Control of Transported Ozone and Precursors*—1. *Northeastern States.* The EPA recognizes that the phenomenon of multi-day transport of ozone and its precursors in the Northeastern States significantly complicates efforts of individual States to develop strategies to attain the ozone NAAQS. With a nearly continuous string of closely located urban areas spread over extended distances and political boundaries, this portion of the country will need a region-wide analysis to determine ultimately the collective adequacy of various State control strategies.

Northeastern States need information to estimate inbound ozone and precursors for urban scale models, and to evaluate the effects of both regional and combined urban ozone control strategies on regional ozone and precursor levels. Applications of the EPA-developed ROM and subsequent interpretation of results will provide this information. However, due to the need for the development of a regional emissions data base and multiple strategy assessments, the ROM results will not be available until after the upcoming SIP revisions are due.

While EPA recognizes that ROM results are necessary in determining relative contributions of transported pollutants to ozone exceedances, EPA will not allow a delay in the submittal of the post-1987 ozone attainment demonstrations and revised SIP's for areas affected by ROM. The EPA believes that the Act requires that attainment demonstrations be made using currently available models and data. This means that States must use urban-scale models, with appropriate assumptions of future transported ozone and precursors, to provide city-specific SIP reduction targets. The EPA expects that implementation of control strategies designed to meet these targets will substantially reduce local ozone and precursor levels and, in turn, will reduce transported ozone and precursor levels downwind. Whether these combined urban strategies are adequate to produce attainment must subsequently be tested in urban-scale analyses when the ROM results are available.

Procedures for estimating present and future transported levels of ozone and precursors for use in the EKMA analysis are contained in the revised EPA guidance document "Guideline for the Use of City-Specific EKMA," and in "Consideration of Transported Ozone and Precursors in Regulatory Applications."

2. *Other Areas Affected by Transport.* The EPA considers the nature of the problem in other areas to be generally of a single-day phenomenon confined to a smaller scale and involving fewer States and cities than the Northeast problem, and believes that it can be handled successfully by urban-scale models, such as EKMA and Urban Airshed. Therefore, EPA does not anticipate the need for a regional model in areas outside the Northeast region.

F. *Accounting for Growth.* The post-1987 ozone and CO plans must contain adequate provisions to ensure that future growth will be accounted for and RFP is maintained.[92] The EPA has been considering two possible options for addressing emission increases from new major sources or major modifications to existing sources: (1) Require emission increases to be offset with decreases at other sources, or (2) allow State strategies to provide margins of growth (i.e., growth accommodation) by controlling beyond the federally-prescribed measures and other measures already needed to show RFP. Although an emission offset program may provide more direct control over emissions growth at these sources, EPA believes that areas still subject to Part D of the Act are entitled specifically by virtue of section 173(1) to choose between an offset program and a control strategy which provides a growth accommodation for emission increases. In addition, EPA believes that the post-1987 nonattainment policy should establish consistent requirements for all areas to the extent possible. Therefore, all States including those subject to section 110 [and, specifically, section 110(a)(2)(D)] are allowed to choose between these two approaches for addressing future emissions growth. Where an accommodative approach is chosen, the State must keep records to show at any one time that the new growth can be accommodated by the SIP.

States may also decide on the approach for addressing growth from minor or area sources. An offset program for minor point sources or additional control measures to accommodate growth from minor point sources or area sources could be used to ensure that RFP is maintained.

On a related matter concerning emissions growth in designated attainment areas or unclassifiable areas,[93] EPA is discontinuing its practice of allowing statewide adoption of RACT as a substitute for preconstruction monitoring required under EPA's Prevention of Significant Deterioration program. Nor can the adoption of statewide RACT be used as a substitute for any nonattainment requirements to which such sources may be subject. As a result, this policy allowed some sources to avoid the offset requirement. In either case, EPA will no longer allow such substitutions.

In addition, the requirement for case-by-case offsets (or a growth allowance in an approved SIP) is extended to major new sources and modifications to be located in self-generating rural ozone nonattainment areas. In its past policies (e.g., 44 FR 20372, April 4, 1979), EPA allowed such construction in all rural ozone nonattainment areas without meeting that requirement. The EPA now believes, however, that rural areas shown to contribute significantly to their own ozone problems should be treated, for purposes of the offset/growth allowance requirement, the same as urban ozone nonattainment areas. The EPA will retain its policy of not applying that requirement in nonself-generating rural ozone nonattainment areas, for the reasons discussed in its previous policy notices.

The EPA believes that additional emission reductions are achievable in

[92] When NO_x control is part of the ozone strategy, NO_x emissions must be accounted for in accordance with the provisions of this subsection.

[93] Areas where sufficient monitoring has not been available to determine whether the area is nonattainment or not.

many areas through more stringent new source review/ prevention of significant deterioration (NSR/PSD) programs. The EPA encourages States to consider measures which could obtain further control of new sources or modifications to existing sources as a way to deal with the problem of long-term growth in sources and their emissions. A list of possible new source review measures is contained in Appendix C. The EPA is not requiring States to implement any or all of these measures, but the Agency would consider these measures if it were promulgating a plan or reviewing a plan which indicated that a State could not identify sufficient emission reductions to attain by the required date or meet progress requirements.

G. *Adoption of Enforceable Regulations*—1. *Legal Authority.* The plan must evidence that sufficient legal authority currently exists at the applicable levels of government for the (1) adoption and enforcement of emission limiting regulations for stationary sources; and (2) adoption, operation, enforcement, and monitoring of TCM's. The SIP is to also include the State Attorney General's opinion regarding sufficient legal authority for controlling stationary sources and implementing transportation-related control measures. (See also section V.C.4.)

2. *Public Participation.* The policy will require some areas to evaluate and adopt some longer term measures that may need an extensive and complex planning and implementation process. Some of the longer term transportation-related control measures listed in Appendix C could fall into this category, such as road pricing or use of alternative fuels if implemented on a broad scale. Measures that affect a broad segment of the public such as auto commuters should result from a process that effectively involves the public and all other affected interests. States must comply with the criteria in sections 172(b)(1), 172(b)(9), and 174 of the Act and related guidance which EPA will use to apply the requirements of sections 108(e), 110(a)(2)(J), and 121 in carrying out their public participation process. (See Expanded Public Participation Guideline reference in Appendix H.)

3. *Form of Emission Limits—VOC.* This post-1987 ozone policy continues EPA's previous position of not requiring enforceable mass emission caps (e.g., caps on pounds of VOC per day) as a condition for plan approval. Generally, emission limits can be expressed as weight or mass per unit of production (e.g., pounds of VOC per gallon of coating). States may want to consider whether it is appropriate also to specify emission limits on a "cap" basis as one way to assure their emission reduction targets are met. If a mass emissions cap is adopted by the State, it must be reflected in the State plan demonstration. If a State chooses to adopt an emissions cap type limit, this must only be done as a supplement to a rate-type emission limit.

Other acceptable forms of an emission limits include: (1) Rules setting a requirement for a percent reduction in emissions where the baseline for the reduction is specified, and (2) equipment or work practice standards that are clearly enforceable.

4. *Recordkeeping.* State rules should require explicitly that sources keep records needed to assess compliance for the timeframe specified in the rule.[94] The basic principle to follow here is that sufficient records must be kept such that the State, EPA, or a citizen can easily and quickly determine without doubt the status of compliance of all operations for any time period in question. The rule must specify all appropriate recordkeeping requirements (e.g., reporting schedules and formats, length of record retention, etc.) For example, if the rule requires daily compliance, then daily records must be required. If units of pounds VOC/gallon solids are required for daily compliance, the source must record the gallons of solids used per day and the pounds of VOC emitted per day. The rules should also require sources to list separately the amount of diluents and where applicable to determining compliance, VOC used in wash-up and clean-up operations. Also, sources which keep records based on the coating manufacturers' data must make sure that such data have been generated through a proper test method, where applicable, and not merely through the formula of the coating.

5. *Test Procedures.* State rules should require the use of the most appropriate and current test methods. To determine the VOC content of coatings, States should require EPA-approved test methods [e.g., Reference Method 24 (1-hour bake) or equivalent American Society for Testing and Materials (ASTM) Methods]. The method used to determine volume percent solids should be EPA-approved (see "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA–450/3–84–019, December 1984). The test procedures in outdated ASTM methods and the Volume II Control Techniques Guidelines are no longer acceptable. Procedures should specify that EPA or States may verify test data submitted by companies with independent tests and that EPA- or State-conducted tests will take precedence.

6. *Compliance Schedules.* All emission limiting regulations, control requirements, or control measures that have future compliance dates or establish other future requirements must be accompanied by a schedule for implementation. Such schedules must show interim milestones of progress and describe the consequences of failure to meet such interim dates. Such milestones must be contained in the adopted regulation submitted to EPA, or must be contained in a federally enforceable permit for each affected source. The schedules for implementation of these measures must not contravene any applicable percent reduction described in section IV.B.

7. *Further Requirements for Enforceable Regulations.* Appendix D includes problems found in current SIP's which interfere with efficient enforcement of those regulations. The States must take steps to remove such problems from revised SIP's. (See Section VI.) Also, EPA issued guidance and a checklist to assist States and Regions in developing enforceable regulations. That guidance, signed by Assistant Administrator for OECM, OAR, and OGC is entitled "Review of State Implementation Plans and Revisions for Enforceability and Legal Sufficiency."

V. Measuring and Assuring Progress and Maintenance

For measuring and assuring implementation of the SIP and progress toward attainment, a program composed of aggressive emissions tracking, rule-effectiveness evaluations, and periodic updates to the demonstrations of attainment will be required. To ensure that the ambient standards will be maintained after they are attained, EPA establishes specific requirements related to redesignating areas to attainment, tracking emissions and air quality, modifying the attainment strategy, and accounting for new source growth. The EPA will require the initial plan revision for each area to contain commitments to

[94] The compliance averaging time associated with each emission limit (e.g., continuous or daily compliance) may include periods longer than 24 hours only in accordance with the memorandum from John O'Connor, Acting Director of the Office of Air Quality Planning and Standards, January 20, 1984, titled "Averaging Times for Compliance with VOC Emission Limits—SIP Revision Policy." Without a stated compliance time, rules will be interpreted to require continuous compliance. The EPA recommends that State rules specify an enforceable compliance time.

provide annual implementation tracking reports, periodic updates to the emission inventory, and periodic updates to the demonstration of attainment. The initial plan revision will also be required to contain a commitment by the State to satisfy the reporting procedures and other requirements specified in this policy to ensure maintenance of the ambient standards. The EPA will review the State tracking and update activities and corrective actions (when needed) to determine if the State is continuing to make reasonable efforts to provide for expeditious attainment and RFP. Major deficiencies or problems in tracking progress or implementation of measures could result in EPA's revoking its contingent approval or its finding that the State is not making reasonable efforts and is, therefore, subject to (additional) sanctions. The EPA is also proposing certain requirements for State emergency episode plans to ensure such plans are consistent with and supportive of this policy. The EPA is also proposing to require the State plan to specify the criteria and procedures to be followed to ensure that federally-assisted projects conform with the SIP.

A. *Measuring and Assuring Progress.* States are to aggressively track and report (1) annually, emission reductions from SIP compliance and, periodically, the total emission inventory; (2) the status of implementation milestones; and (3) air quality levels. In addition, States are to report on the results and corrective actions associated with rule-effectiveness evaluations and, every 6 years, to redo their demonstrations of attainment to ensure that their control strategies are still adequate to provide expeditious attainment and adequate progress in the interim.

1. *Aggressive Tracking.* States will be required to report on certain emission reductions, implementation milestones, and air quality in an annual report due within 9 months after the end of the calendar year being reported on. Every third annual report will also contain a complete, updated emission inventory.[95] The first annual report will be for the first full calendar year after the initial plan submittal due date. The first annual report should cover emission reductions and measure implementation since the base year.

The annual report will delineate the emission reductions which have occurred during that year as a result of compliance with the SIP regulations or measures.[96] These reductions will be compared with projections and expected reductions from the demonstration of attainment to serve as indicators of RFP.[97] The State will also provide the status of regulations which were to have been adopted in that year plus the status of compliance efforts by affected sources. Emission reductions occurring in the reporting year which were initially scheduled for earlier years should also be covered. If implementation or compliance problems cause a shortfall in the expected emission reductions from a source category (including expected reductions from mobile source measures) to occur, the State must develop and implement additional measures needed to achieve at least an equivalent amount of reductions as expeditiously as practicable. Additional measures must be submitted in a SIP revision within 9 months after the annual RFP report due date and must achieve the shortfall in emission reductions within 2 years of the end of the year being reported on. Subsequent annual reports should document the implementation of these additional measures.

If delays in full compliance with the regulation(s) are expected, the State should highlight the compliance problems, estimate the date for full compliance, and within 9 months of the end of the reporting year, discuss with the EPA Regional Office the problem and any recommended steps for resolution. The State and EPA will conduct quarterly reviews to ensure that the delays are not substantial. If delays are expected to last more than 1 year, States are required to develop and implement interim measures to eliminate the reduction shortfall until full compliance with the original SIP measure is achieved or to substitute measures to replace the original measure. Interim or substitute measures must be submitted as SIP revisions within 12 months after the reporting year, and schedules for implementing the measures must ensure that the shortfall in emissions reductions is achieved within 2 years of the end of the year being reported on. Subsequent annual reports must document implementation of the substitute or interim measures.[98]

States are required to update every 3 years the entire emissions inventory for their nonattainment areas. These 3-year updates must coincide with the years of the interim projections used in the demonstration of attainment. The first inventory update will be for the year 1992 and will be included in the annual report submitted in 1993. The emission inventory update will be included in the RFP report for the same year for which the inventory was projected in the attainment demonstration.[99] [100]

The initial plan submittal must contain a commitment to revise the SIP (within 9 months of the due date for the RFP report containing the updated inventory) if the emissions reflected in the inventory updates are higher than the emissions represented on the RFP curve. Corrective actions must ensure that the targeted emission inventory level will be achieved expeditiously, but no later than the end of the base year for the next inventory date. These complete emission inventories should also detail new source review (NSR) activity. New source growth should be summarized along with the offsets produced for such growth.

States must also report annually (in the RFP report) on the status of the implementation milestones and commitments which were to have been satisfied in the reporting year. The status of milestones and commitments scheduled but not met in earlier years should also be reported. If a milestone has not been met, the State must document the problems and the plans for satisfying the commitment. The EPA will assume that delays of more than 1 year will significantly interfere with the scheduled implementation of the

[95] As discussed later, the first inventory update will be for the year 1992 and will be submitted in the annual report due in 1993.

[96] Reductions should be net; that is, they must account for the emission growth (from all sources) which has occurred in the regulated categories being reported on. Reductions must also consider appropriate levels of control measure effectiveness.

[97] Since not all emissions and growth are to be addressed in the annual report, compliance with RFP requirements cannot be determined totally in each annual report. However, compliance with expected emission reductions projected for specific source categories will be used to assess RFP in years where total emission inventories are not developed.

[98] EPA will evaluate the State's performance in responding adequately to identified emission reduction shortfalls or problems in implementing control measures. A failure on the part of the State to respond to such shortfalls or problems may result in EPA's rescinding its finding of "reasonable efforts" and imposing sanctions in the area. Although EPA does not expect to take immediate corrective action (e.g., sanctions) when a State first experiences implementation problems, persistent failure to meet the original emission reduction requirements and implementation milestones (discussed later), despite the State's taking corrective action as outlined in this section, may also result in EPA's rescinding its finding of "reasonable efforts" and imposing sanctions.

[99] Additional information on the schedule and content of the inventory updates is contained in "Revised Guidance for Tracking Reasonable Further Progress (RFP) in Ozone Control Programs." The guidance and the above requirements also apply to CO and NO_x (where NO_x controls are part of the ozone strategy). Inventories should be compiled in accordance with "Emission Inventory Requirements for Post-1987 Ozone SIP's."

measure and, therefore, RFP. As such, EPA will consider rescinding its finding of "reasonable efforts" by the State or its plan approval (whichever is applicable) and imposing available sanctions unless the State demonstrates that full implementation of the measure will not be delayed beyond the original due date contained in the SIP and that RFP will continue to be met. Any milestone can be amended or a measure substituted through a SIP revision if the State demonstrates that RFP will continue to be met. Significant delays in the implementation of a measure may cause substitute or interim measures to be required. Substitute measures must ensure that RFP is maintained.

The annual RFP report will also be required to contain a summary of ambient air quality levels. Air quality levels for ozone and CO should be reported in accordance with the "Revised Guidance for Tracking Reasonable Further Progress (RFP) in Ozone Control Programs." In areas with long-term nonattainment dates, States are required to monitor NMOC at a minimum of one monitoring site each year during the ozone season.[101] Other States are also encouraged to measure NMOC each year to compare with emission inventory data and support subsequent modeling analyses.

2. *Rule Effectiveness Evaluations.* States must commit in their initial SIP's to evaluate selected regulations and programs annually to determine whether they are achieving their intended effect. The EPA will identify each year those regulations and programs which should be the focus of the evaluations.[102] Guidance for this effort is contained in "Guideline for Evaluating Effectiveness of VOC Regulations." The EPA Regional Offices and the States will jointly conduct these evaluations, as discussed in the above guidance.

The results of each year's rule effectiveness evaluations must be summarized in the State annual RFP report for that year. Major problems must be identified, and actions needed to remedy the problems must be listed. The report must contain a schedule of the steps the State will take to correct implementation problems. The EPA expects implementation problems to be corrected within 1 year of the due date for the annual report. Subsequent annual reports should summarize corrective actions taken and their results.

3. *Subsequent Demonstrations of Attainment.* States must reexamine their demonstration of attainment periodically (every 6 years, to coincide with a cycle of two updated emission inventories) [103] based on up-to-date emission levels, modeling techniques, emission factors, and air quality levels (O_3, NO_x, NMOC, CO). States with attainment dates within the subsequent 6 years must also project their emissions for at least 10 years from the SIP due date to show that their strategies will provide for maintenance of the standards.[104] States are encouraged to make more frequent reviews of their demonstrations if they believe that significant (and permanent) changes in emission factors, modeling techniques, air quality or other factors in the demonstration might indicate the need for modifying their control strategies. The EPA will periodically provide States guidance on the demonstrations, including information on revised base year emission inventories, modeling methodologies, and schedules for submittal.

The EPA will require the subsequent demonstrations to be submitted within 18 months after the end of the 6-year period.[105] The updated demonstration of attainment must consider the effects that implemented measures have had, including a comparison between these effects and the projections in the earlier demonstration(s). The demonstrations must provide greater detail on long-term measures (to the extent that additional details are available on implementation of these measures) and incorporate the effects of previous changes in the strategy (e.g., additional or substitute measures to account for previous shortfalls). The EPA will consider the performance of the State with regard to implementation of measures and compliance with RFP in reviewing the updated demonstrations of attainment and determining whether reasonable efforts are still being made.

B. *Maintenance Plan and Continuity of Control Programs.* Specific additional requirements apply to areas after they attain the ambient standards, to assure that the standards are maintained into the future. These requirements focus on non-attainment redesignations, maintenance strategies and measures, and EPA review of maintenance results.

1. *Nonattainment Redesignations.* The currant redesignation policy requires: For ozone, 3 years of air quality data showing no violations; for CO, 2 years of air quality data showing no violations; for both, completion of the SIP planning activity and implementation of the associated rules and measures.[106] The above requirements are to apply to the entire MSA. That is, no ambient violations will have occurred anywhere in the MSA (or CMSA) in the last 3 years for ozone or 2 years for CO, and all sources in the MSA (or CMSA) included in the control strategy for the demonstration of attainment will be in compliance.

The EPA is also considering alternatives for addressing redesignation requests involving ozone transport areas. Under current policy, areas with downwind design sites located outside of the control area must show that attainment has occurred at the design site (as well as in the control area) before the area can be redesignated to attainment. For such transport situations, EPA will continue this policy. For more complex transport situations (e.g., the Northeast areas covered in the ROM analysis), EPA is considering whether (1) to require attainment in the downwind area(s) before any upwind area(s) could be redesignated or (2) to allow an upwind area that has attained in its area, and has reduced emissions sufficiently to account for its share of transport to the downwind area, to be redesignated before attainment is shown in the downwind area. The EPA invites comment on these additional redesignation requirements.

As a part of a redesignation request, States must demonstrate that the emission reductions and the attainment inventory (see following discussion) will be maintained into the future.[107] Although EPA recognizes that long-term growth projections can be highly speculative, States will be required to use the best available information to project growth and related emissions as far as reasonable into the future. The air

[100] The first emission inventory update will be for the base year 1992 and will be reported in the annual report due in 1993. The next inventory update will cover the base year 1995 and will be reported in 1996, and so forth.

[101] NO_x monitoring would also be required at this site.

[103] The first updated inventory will be for 1992, the second for 1995; hence, the first subsequent demonstration will use the 1995 inventory as its base.

[104] The 6 years is measured from the original SIP due date or the date the updated demonstration is due.

[105] The first demonstration update (covering the period through 1995) will be due by mid-1997.

[106] The EPA policy on nonattainment redesignations is further described in the following EPA memoranda: "Section 107 Designation Policy Summary," April 21, 1983, Sheldon Meyers to Regional Office Division Directors; "Section 107 Questions and Answers," December 23, 1983, G.T. Helms to Regional Office Air Branch Chiefs.

[107] The requirement to maintain the attainment inventory level in areas which had areawide CO problems will apply to the entire MSA/CMSA. For areas which had only CO hotspot problems, smaller areas (after EPA approval) may be used in determining the attainment inventory level.

pollution control requirements that will apply to that growth should be considered in determining what the resulting emission level will be. A minimum future projection of 10 years (from the redesignation) will be required and 20 years is preferred. The EPA will provide guidance on projecting emissions and other aspects of developing a maintenance plan.

All attainment strategy requirements in the existing SIP's must remain in effect during the redesignation process and until such time as modified in accordance with established SIP revision procedures. Even though the current new source review (NSR) regulations allow a potential exemption from nonattainment area new source review requirements for sources wishing to locate in an area designated nonattainment that can demonstrate attainment before the source would start operation, EPA proposed removing this exemption on January 28, 1981 (at 46 FR 8124). The EPA is now considering implementing this rule change in this policy and invites comment on this issue.

In some areas, for CO, States may desire to reduce the coverage of the nonattainment area. The EPA will consider such requests if the State provides air quality data and a detailed modeling analysis showing that areawide hotspot violations are no longer occurring (and no more are projected to occur for 10 years) in the area outside of the proposed nonattainment area (including any designated attainment areas in the MSA/CMSA outside of the proposed nonattainment area). The EPA will no longer consider requests for redefining the CO nonattainment area smaller than the urbanized area.

2. *Maintenance Strategy Requirements.* Areas must commit (in their initial SIP revisions) to implement the procedures and policies discussed below to ensure maintenance of the ambient standards. These maintenance strategies involve tracking emissions and air quality, regulating new source growth, projecting emissions growth and the need for additional measures, and procedures for modifying the current attainment strategy.

States shall provide a report every 3 years (after attainment is achieved) summarizing all new source growth and other emission changes from the "attainment inventory." [108] The first report will be due 45 months after the end of the year in which (1) the area is formally redesignated (for section 107-designated nonattainment areas) or (2) the area is found to no longer violate the ambient standard (for areas which never had section 107 nonattainment designations or which were designated attainment or unclassifiable when the area is found to not violate the NAAQS).[109] The first report should address all emission changes in the year of the redesignation plus the following 3 years. Thereafter, the report should cover emission changes and other related items in subsequent 3-year periods and will be due within 9 months after the end of the 3-year period. This report and all subsequent reports should also document the results of the rule effectiveness evaluations which have occurred in the 3-year reporting period. Emission changes and inventory levels in the reports must account for appropriate effectiveness levels. The report should document any steps being taken to improve rule effectiveness.

In the 3-year report, the State should provide a complete up-to-date emission inventory. The base year should be the third year of the 3-year reporting period. The inventory should be presented in the form contained in "Emission Inventory Requirements for Post-1987 Ozone State Implementation Plans." The summary of emissions should delineate the emissions growth from new sources or sources which have expanded. Minor and area source growth should be shown, and the State should indicate whether previous assumptions used in projecting minor and area source growth are still appropriate. The sources and magnitude of emissions offsets should be identified. The NO_x and CO emission summaries should also be provided for ozone areas.

If the updated inventory reported to EPA is higher than the attainment inventory, the State must take appropriate action to lower its emissions.[110] Within 9 months from the due date for that report, the State must (1) demonstrate that within the calendar year after the end of the last reporting period, the emissions inventory fell below the attainment inventory or (2) submit a SIP revision containing appropriate measures to ensure that the inventory will fall below the attainment inventory as expeditiously as practicable.

The 3-year report from the State must also summarize air quality levels and trends. If an area had been nonattainment for ozone, NMOC and NO_x levels and trends must also be reported. The EPA will develop additional guidance for States to follow in summarizing their air quality data under the maintenance strategies. States shall project in every other 3-year report (i.e., every 6 years) their expected emissions over the next 10 years. In this report, the State must show that its current SIP is adequate to maintain the standard after attainment. If the SIP measures will not be able to ensure that emissions stay below the attainment inventory level, the State must submit in that report its plan for additional measures to accommodate the growth. The State must commit to implement those additional measures at a rate such that the emission reductions occur before emissions increase from expected growth.

States may decide their own approach for addressing emissions growth as long as the attainment inventory level is maintained and the State satisfies other regulatory requirements (e.g., prevention of significant deterioration in areas redesignated to attainment).

To account for emissions growth, the State can either adopt and implement additional control measures (beyond the federally implemented measures or other measures needed to show RFP) to accommodate the increases or require case-by-case offsets for major and (possibly) minor sources. The State must show that their measures will produce the necessary emission reductions before the emissions growth occurs (whether from major or minor point, area, or mobile sources). Some of these measures will have been identified in the demonstration accompanying the request for a redesignation to attainment. Others may be developed later and submitted as SIP revisions, so long as they create the emission reductions prior to the emissions growth.

Maintenance of the CO ambient standard is to be ensured through an approach similar to the one discussed above for ozone. CO maintenance plans must (1) ensure that emissions remain below the attainment inventory for an area and, (2) periodically assess the effects of new source growth. Exceptions to the first requirement may be allowed if the State demonstrates that its previous CO problem was

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[108] The emission level that is the basis for redesignation to attainment is the attainment inventory. For ozone, this inventory is based on actual emissions during the 3-year period corresponding to the 3-year period during which no ambient violations were recorded. For CO, 2-year periods are used. The lowest annual emission level during this period will be considered the attainment inventory. The EPA will provide additional guidance later to States on the development of the attainment inventory.

[109] The 45 months is based on a requirement to report within 9 months on the first 3-year period.

[110] For CO hotspot problems, the attainment inventory will be used as an indicator of the potential for additional or recurring CO problems.

entirely a hotspot problem and that the emission increases will not cause or contribute to a new hotspot problem.

For both ozone and CO, States are to project their future emissions for at least 10 years in a submittal every 6 years (every other 3-year report). In this report, the State must show that its current SIP is adequate to maintain the standards for the next 10 years in light of expected growth. If the SIP will not be adequate to ensure that emissions stay below the attainment inventory, the State must submit in that report its plan for additional measures to accommodate the growth. The State must commit to implement those additional measures at a rate so that the emission reductions occur before the expected growth.

Having attained the ambient standards, some States may desire to remove or relax certain regulations or measures. Any modification to the attainment strategy would have to be submitted and approved as a SIP revision before such change could occur.

Finally, to ensure that the measures needed to maintain the standards are effectively and continuously implemented, EPA will approve redesignation requests or maintenance plans contingent upon the States satisfying the above requirements.

The EPA will consider revoking its contingent approval of the SIP and imposing sanctions if the State fails to continue to satisfy the requirements set forth above.

C. *Emergency Episode Plans.* States shall demonstrate that their emergency episode plans (adopted pursuant to 40 CFR Part 51, Subpart H) are consistent with the requirements of this policy and are fully adopted and enforceable. The initial plan submittal must contain this demonstration; however, the State may be allowed to provide the demonstration in the first RFP report if significant changes to the emergency episode plan are needed. If such a delay is needed, the initial plan submittal must contain a commitment and schedule for revising the emergency plan by the due date for the first RFP report. Source areas in one State that contribute to ozone exceedances in another State are to develop emergency episode plans which consider those receptor areas. These plans must include a provision for interstate coordination involving air quality data and quality assurance information.

D. *Conformity of Federal Actions With the SIP.* Section 176(c) of the Act requires all federally approved or financially assisted actions (projects, plans, approvals, assistance, etc.) to conform to the SIP's for the areas in which those actions will take place. Metropolitan Planning Organizations (MPO's) are prohibited from approving any project, program, or plan that does not conform to the SIP for that area. Assurance of conformity is also an affirmative responsibility of the head of each Federal agency.

Due to the existing DOT/EPA Conformity Agreement of June 12, 1980, the conformity approach and criteria contained in this section do not apply to transportation plans, programs, and projects approved by MPO's and approved or funded by DOT. The EPA and DOT will discuss the joint updating and revision of the 1980 Conformity Agreement.

To ensure that projects approved by MPO's do not cause NAAQS violations or interfere with timely attainment of the standards (and hence do conform to the revised SIP), EPA will require that each revised SIP explicitly identify direct and indirect emissions from projected major Federal actions that the State and MPO expect to will occur in coming years. The SIP must also set out the State's definition of what future projects would or would not conform with the SIP. The SIP should document assumptions used in predicting future emissions so that emissions associated with Federal actions can be readily compared to emission projections in the SIP. This should include assumptions on growth that can be readily disaggregated (including population, employment, VMT, and emissions, as appropriate).

State implementation plans should also identify the local review procedures and responsibilities in determining conformity and provide for mitigation of violations resulting from Federal actions and emissions not covered by SIP growth allowances. These procedures should specify that conformity determinations cannot be made until sufficient information exists and analysis has been done to make a positive finding that conformity will be assured.

The SIP's conformity definition should state, at a minimum, that a federally approved or financially assisted actions (projects, plans, approvable assistance, etc.) subject to section 176(c) will conform with the SIP only if:

(1) The associated direct and indirect increase in emissions, when considered with emissions from other expected actions, will not cause or contribute to the violation of any NAAQS;

(2) The growth projections (population, employment, VMT) of the proposed Federal action are consistent with the growth projections used in the SIP, as disaggregated for the relevant areas;

(3) The major stationary source, mobile source, and areawide emissions growth rates used or implicitly used are consistent with emissions growth rates used in the SIP;

(4) The associated direct and indirect increases in emissions projected to result from the project are consistent with the SIP growth allowances and projections, to allow RFP toward attainment of all NAAQS as expeditiously as possible;

(5) The proposed action is consistent with the timely implementation of SIP TCM's in accordance with SIP schedules and does not reduce or interfere with the effectiveness of the TCM's in the SIP;

(6) All relevant SIP requirements for stationary source review and permitting are met, including procedural and substantive provisions (e.g., emission limitations and operation requirements);

(7) Associated direct and indirect increases in emissions (a) will not contribute to any exceedances of any prevention of significiant deterioration increments and (b) will not interfere with Class I area visibility protection; and

(8) The facility or activity complies with all other goals, provisions, policies, and requirements of the SIP.

VI. Maximizing Effectiveness of Existing Programs

The EPA requires States receiving SIP calls or disapprovals to correct the SIP deficiencies and inconsistencies described in Appendix D as expeditiously as practicable but at least by the time the initial SIP is due (2 years from the SIP call). The EPA will work with the various States in identifying specific deficiencies contained in their SIP's and in developing a schedule for submitting the needed revisions. The EPA is in the process of upgrading guidance material, developing new guidance where needed, and formulating State-EPA workgroups and clearing houses to assist the States in improving their overall program effectiveness.

VII. Miscellaneous

Executive Order 12291, EPA must judge whether this action is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This action is not major because it establishes policies, as opposed to regulations.

This proposed policy was submitted to the Office of Management and Budget (OMB) for review. Any written comments from OMB to EPA are available for public inspection in the Docket. Pursuant to 5 U.S.C. 605(b), I hereby certify that this action will not have a significant economic impact on a substantial number of small entities because this action proposes policy as opposed to binding regulations.

Lee M. Thomas,

Administrator.

Date: November 17, 1987.

Appendix A.—Potential 1988 SIP Call Areas

TABLE A-1.—POTENTIAL 1988 SIP CALL AREAS—OZONE

EPA region and area	Exceeding NAAQS 1984–86 (a)	Will exceed NAAQS 1985–87 (b)	May exceed in 1985–87, depending on 1987 data (c)
Metropolitan Statistical Areas (MSA unless marked CMSA)			
I Boston, MA CMSA	YES	YES	
I Connecticut/Massachusetts,[1] CT–MA	YES	YES	
I New Bedford, MA	YES	YES	
I Portland, ME	YES	YES	
I Portsmouth-Dover, NH–ME	YES	YES	
I Providence, RI CMSA	YES	YES	
I Worcester, MA	YES		YES
II Atlantic City, NJ	YES	YES	
II New York, NY CMSA	YES	YES	
III Allentown-Bethlehem, PA	YES		YES
III Baltimore, MD	YES	YES	
III Charleston, WV			YES
III Erie, PA			YES
III Harrisburg, PA			YES
III Lancaster, PA			YES
III Philadelphia, PA–NJ–DE CMSA	YES	YES	
III Pittsburgh, PA CMSA			YES
III Reading, PA			YES
III Richmond, VA			YES
III Washington, DC–MD–VA	YES	YES	
III York, PA			YES
IV Atlanta,[2] GA	YES	YES	
IV Birmingham, AL	YES	YES	
IV Charlotte, NC–SC	YES	YES	
IV Huntington, WV–KY–OH	YES	YES	
IV Jacksonville, FL	YES		YES
IV Lexington, KY	YES	YES	
IV Louisville, KY (IN suburbs [2])	YES	YES	
IV Memphis, TN–AR–MS	YES	YES	
IV Miami-Hialeah, FL CMSA	YES	YES	
IV Nashville, TN	YES	YES	
IV Tampa, FL	YES		YES
V Chicago,[2] IL CMSA (IN suburbs [2])	YES	YES	
V Cincinnati, OH–KY–IN	YES		YES
V Cleveland, OH	YES		YES
V Dayton-Springfield, OH			YES
V Detroit, MI CMSA			YES
V Grand Rapids, MI			YES
V Indianapolis, IN	YES		YES
V Janesville-Beloit, WI			YES
V Milwaukee, WI	YES	YES	
V Muskegon, MI	YES	YES	
VI Baton Rouge, LA	YES	YES	
VI Beaumont-Port Arthur, TX	YES	YES	
VI Dallas-Ft. Worth,[2] TX CMSA	YES	YES	
VI El Paso, TX	YES	YES	
VI Houston, TX CMSA	YES	YES	
VI Lake Charles, LA	YES		YES
VI Longview-Marshall, TX	YES		YES
VI Tulsa, OK	YES	YES	
VII Kansas City, MO–KS	YES		YES
VII St. Louis, MO–IL CMSA (IL suburbs [2])	YES	YES	
VIII Denver-Boulder, CO CMSA	YES		YES
VIII Salt Lake City, UT	YES	YES	
IX Bakersfield,[2] CA	YES	YES	

TABLE A-1.—POTENTIAL 1988 SIP CALL AREAS—OZONE—Continued

EPA region and area	Exceeding NAAQS 1984-86 (a)	Will exceed NAAQS 1985-87 (b)	May exceed in 1985-87, depending on 1987 data (c)
IX Fresno,[2] CA	YES	YES	
IX Los Angeles,[2] CA CMSA (Ventura [2])	YES	YES	
IX Modesto, CA	YES	YES	
IX Phoenix, AZ	YES	YES	
IX Sacramento,[2] CA	YES	YES	
IX San Diego, CA	YES	YES	
IX San Francisco, CA CMSA	YES	YES	
IX Santa Barbara, CA	YES		YES
IX Stockton, CA	YES	YES	
IX Visalia, CA	YES	YES	
IX Yuba City, CA	YES	YES	
X Portland, OR-WA	YES		YES
Non-MSA's			
I Acadia National Park, ME			YES
I Gardiner, ME	YES		YES
I Hancock County, ME	YES		YES
I Knox County, ME	YES	YES	
I York County, ME	YES	YES	
III Dover, DE			YES
III Northampton County, VA			YES
III Seaford, DE			YES
VI Iberville Parish, LA	YES	YES	
VI Point Coupee Parish, LA	YES		
VI St. James Parish, LA	YES		
Total	62	45	31

[1] Connecticut/Massachussetts includes Bristol, Hartford, Middletown, New Britain, New Haven, and New London, CT, and Springfield, MA MSA's.

[2] One of 14 ozone or CO SIP's proposed for disapproval, July 14, 1987 (52 FR 26404)

Explanation of Column Headings:

(a) Locations having expected exceedances of 0.12 ppm greater than 1.0 per year during 1984-86.

(b) These areas are above 0.12 ppm and have measured more than three exceedances during 1985 and 1986. They will continue to exceed the NAAQS during the 1985-87 period even if no exceedances occur in 1987.

(c) Areas currently exceeding NAAQS and showing "YES" in this column measured 3 or fewer exceedances in last 2 years (1985-86). Other areas are not currently exceeding NAAQS, but did so during 1983-85, and may show renewed nonattainment in 1985-87. SIP calls in 1988 for areas in this column will depend on 1987 data. Other areas may also exceed in 1985-87 (see Discussion).

Table A-2.—POTENTIAL 1988 SIP CALL AREAS—CARBON MONOXIDE

EPA region and area [3]	Exceeding NAAQS 1985-86 (a)	Will exceed NAAQS 1986-87 (b)	May exceed in 1986-87, depending on 1987 data (c)
I Boston, MA	YES	YES	
I Hartford, CT	YES	YES	
I Lowell, MA-NH			YES
I Manchester, NH	YES	YES	
I Nashua, NH	YES	YES	
I Providence, RI	YES		YES
I Springfield, MA	YES	YES	
I Stamford, CT		YES	
I Worcester, MA		YES	
II Bergen-Passaic, NJ	YES	YES	
II Jersey City, NJ	YES	YES	
II Nassau-Suffolk, NY			YES
II New York, NY	YES	YES	
II Newark, NJ	YES	YES	
II Syracuse, NY	YES	YES	
II Trenton, NJ			YES

Table A-2.—Potential 1988 SIP Call Areas—Carbon Monoxide—Continued

EPA region and area [3]	Exceeding NAAQS 1985-86 (a)	Will exceed NAAQS 1986-87 (b)	May exceed in 1986-87, depending on 1987 data (c)
III Baltimore, MD	YES	YES	
III Norfolk-Virginia Beach, VA			YES
III Philadelphia, PA-NJ			YES
III Pittsburgh, PA	YES	YES	
III Washington, DC-MD-VA	YES		YES
IV Atlanta, GA			YES
IV Birmingham, AL			YES
IV Charlotte-Rock Hill, NC-SC	YES		YES
IV Greensboro/Winston-Salem, NC			YES
IV Lexington, KY			YES
IV Louisville, KY			YES
IV Memphis, TN-AR-MS	YES	YES	
IV Miami-Hialeah, FL	YES		YES
IV Nashville, TN	YES	YES	
IV Raleigh-Durham, NC	YES	YES	
V Chicago, IL			YES
V Cleveland[4], OH	YES	YES	
V Davenport-Rock Island, IA-IL			YES
V Detroit, MI	YES	YES	
V Duluth, MN	YES	YES	
V Milwaukee, WI			YES
V Minneapolis/St. Paul, MN-WI	YES	YES	
V Peoria, IL			YES
V Rockford, IL			YES
V Steubenville-Weirton, OH-WV	YES		YES
V St. Cloud, MN	YES		YES
V Toledo, OH			YES
VI Albuquerque, NM	YES	YES	
VI Dallas, TX	YES		YES
VI El Paso, TX	YES	YES	
VI Houston, TX	YES	YES	
VI Oklahoma City, OK	YES	YES	
VII Des Moines, IA			YES
VII Dubuque, IA			YES
VII Kansas City, MO-KS			YES
VII Lincoln, NE	YES	YES	
VII Springfield, MO	YES	YES	
VII Wichita, KS	YES	YES	
VIII Boulder-Longmont, CO	YES		YES
VIII Colorado Springs, CO	YES	YES	
VIII Denver,[4] CO	YES	YES	
VIII Fort Collins, CO	YES	YES	
VIII Greeley, CO	YES	YES	
VIII Missoula, MT	YES		YES
VIII Provo-Orem, UT	YES	YES	
VIII Salt Lake City-Ogden, UT	YES	YES	
IX Anaheim-Santa Ana, CA	YES	YES	
IX Chico, CA	YES	YES	
IX Fresno,[4] CA	YES	YES	
IX Las Vegas, NV	YES	YES	
IX Los Angeles-Long Beach,[4] CA	YES	YES	
IX Modesto, CA	YES	YES	
IX Phoenix, AZ	YES	YES	
IX Reno,[4] NV	YES	YES	
IX Sacramento, CA (includes S. Lake Tahoe area)	YES	YES	
IX San Diego, CA	YES		YES
IX San Francisco, CA	YES	YES	
IX San Jose, CA	YES	YES	
IX Santa Barbara-Santa Maria, CA	YES		YES
IX Tucson, AZ			YES
IX Vallejo-Fairfield-Napa, CA	YES	YES	
X Anchorage, AK	YES	YES	
X Boise City, ID	YES	YES	
X Fairbanks, AK	YES	YES	
X Grants Pass, OR	YES	YES	

Table A-2.—POTENTIAL 1988 SIP CALL AREAS—CARBON MONOXIDE—Continued

	EPA region and area [3]	Exceeding NAAQS 1985-86	Will exceed NAAQS 1986-87	May exceed in 1986-87, depending on 1987 data
		(a)	(b)	(c)
X	Medford, OR	YES	YES	
X	Portland, OR			YES
X	Salem, OR	YES		YES
X	Seattle, WA	YES	YES	
X	Spokane, WA	YES	YES	
X	Tacoma, WA	YES	YES	
X	Yakima, WA	YES		YES
	Total	65	52	36

[3] Generally, the area includes the MSA if one exists. In some cases (e.g., the Sacramento, CA MSA) the air quality status may be based on a site distant from the central urban area.

[4] One of 14 ozone or carbon monoxide SIP's proposed for disapproval July 14, 1987 (52 FR 26404)

Explanation of Column Headings:

(a) Locations with at least two exceedances of 9 ppm during 1985 and/or 1986.

(b) Areas with at least two exceedances of 9 ppm in 1986. They will continue to exceed the NAAQS during the 1985-87 period even if no exceedances occur in 1987.

(c) Areas in this column are:

1. Exceeding the NAAQS, but did not measure more than one exceedance in 1986, or
2. Not exceeding the NAAQS, but did so during 1984-85.

SIP calls in 1988 for these areas will depend on 1987 data. Other areas may also exceed NAAQS in 1986-87 (see Discussion).

Appendix B—Procedures for Determining Self-Generating Versus Nonself-Generating Isolated Rural Area

The EPA defines a rural area either as an adjacent rural area, a self-generating isolated rural area or as a nonself-generating isolated rural area. (All rural areas are non-MSA's.) An adjacent rural area is a county with actual monitored violations of ozone that borders a MSA that has been issued a SIP call for ozone. A self-generating isolated rural area is an area that produces, or significantly contributes to, local ambient ozone levels. These areas cannot rely upon upwind areas to provide for attainment in the isolated rural area. Self-generating isolated rural areas will most likely have to adopt additional control measures to demonstrate attainment. A nonself-generating isolated rural area is one that does not signficantly contribute to local ambient levels of ozone. Attainment of the ozone standard in a nonself-generating isolated rural area will occur when sufficient emissions reductions have been achieved from the upwind sources to cause the ambient concentrations of ozone to decrease to the NAAQS in the isolated rural area.

"Self-Generating Tests"

The EPA believes several, simple tests can be performed by the State to determine if an isolated rural area is a self-generating ozone area. Data used for determination of self-generating ozone areas should be taken from the most recent "ozone season" and should be based upon generally recognized data analysis techniques.

(1) Ozone Gradient—These tests require upwind and downwind ozone monitors for the rural site. If an increase in ambient levels of ozone is observed between the upwind and downwind monitors, local emissions may be responsible for generating the ozone increment. If no increase in ambient levels are shown between the upwind and downwind sites, the area may be classified as a nonself-generating isolated rural area. An area defining itself as a nonself-generating isolated rural area is to identify the upwind source area(s) that is causing, or in combination with other areas contributing to, local nonattainment.

(2) Time of Ozone Peaks—Locally produced ozone typically occurs between 12 noon and 6 pm. Peaks observed outside of these hours may be caused by transported ozone from upwind areas.

At times of day when ozone would be highest (i.e., when the gradient, if one exists, might be most significant), large vertical differences in ozone concentrations would not be anticipated. The number of days which would have to demonstrated as due to transport would depend on the total number of exceedances and on whether or not "transport" days can be attributed to a particular upwind MSA and that MSA's SIP adequately accounts for the day in question. For a 3-year period:

Number of Exceedances	Number Transport	Allowable self-generated exceedance
n (n>4)	n-3	0
Do	n-2	1
Do	n-1	2
Do	n	3

(3) Distance From Upwind Source Area—If the isolated rural area is (a) within 10 hours travel time of an upwind MSA, (b) no gradient is present, and (c) trajectory analysis based on surface wind data indicates that the air parcel corresponding with observed violations is not likely to be in the vicinity of the rural area between early morning and noon, the rural area may be assumed nonself-generating and the upwind MSA may be presumed to be responsible for the isolated rural area's ozone levels.

The EPA Regional Offices will work with the States in determining the proper test or data needs to determine if an isolated rural area is self-generating or nonself-generating.

Appendix C—Information Which May be Useful in Assisting States to Achieve Emissions Reductions

The following sections list a number of transportation related control measures, stationary source measures, and potential new source review measures that EPA believes the States can use in selecting measures to gain additional emission reductions above and beyond the federally implemented and federally prescribed measures. These lists are not intended to be exhaustive. State and local agencies may be able to, and are encouraged to, identify other effective control measures.

Transportation Control Measures

The following measures, especially when put into comprehensive packages and implemented on a wide scale, can contribute to achieving periodic emission reductions needed to demonstrate expeditious attainment by a date certain. Nearly all the measures have been implemented somewhere.

1. Voluntary No Drive Days.
2. Trip Reduction Ordinances.
3. Employer Based Transportation Management (including tax incentives for employer programs).
4. Improved Public Transit.
5. Parking Management Programs.
6. Park and Ride/Fringe Parking.
7. Work Schedule Changes.
8. Road Pricing (Tolls).
9. Traffic Flow Improvements.
10. Ride Share Incentives.
11. Control of Extended Idling of Vehicles.
12. Reduction of Cold Start Emissions.
13. Gasoline Fuel Additives.[111]
14. Conversion of Fleet Vehicles to Cleaner Fuels or Engines.[111]

More controversial measures used more prevalently outside the United States include mandatory no-drive days, gas rationing, or such economic instruments as taxes on gasoline, vehicles (purchase and annual registration), and parking. The tax incentive-type measures will tend to discourage or prohibit automobile use. For example, a higher tax will result in a greater disincentive to drive. For the gasoline tax, especially, the level of the tax could be adjusted to help achieve the desired reduction in vehicle miles traveled.

[111] The EPA is currently soliciting comment on two technical reports related to alternate fuels. One discusses the air quality benefits of alternative fuels and the other includes guidance on estimating motor vehicle emissions reductions from the use of alternative fuels and fuel blends. The EPA currently plans to finalize these two technical reports by January 1988.

Stationary Source Measures

Table C–1 lists a number of source categories where control may give significant emission reductions. The heading, "Tightening existing regs. (LAER)," in Table. C–1 refers to revising all current regulations to the level of the most stringent regulation found in any SIP.

TABLE C–1.—SUMMARY OF STATIONARY SOURCE MEASURES

	Potential reduction, tons [1] (in nonattainment areas)
Source category:	
SOCMI distillation	66,000
Petroleum wastewater	11,000
SOCMI reactor process	12,000
Plastic parts coating	16,000
Metal rolling	7,000
SOCMI batch process	38,000
Web offset lithography	31,000
Electronics manufacture	4,000
Aerospace coating	3,000
Wood furniture coating	25,000
Autobody refinishing	53,000
TSDF	330,000
Bakeries	27,000
Fabric printing	10,000
Clean-up solvents	41,000
Municipal landfills	58,000
Industrial wastewater (including POTW's)	63,000
Marine vessel loading	
Pesticides application	
Paint manufacturing	
Ink manufacturing	
Wineries	
Policy Changes:	
Tightening existing regs. (LAER)	[2] 395,000
Area Sources:	
Architectural coating	68,000
Traffic paint	26,000
Industrial maintenance paint	15,000
Consumer and commercial solvents	77,000
Adhesives	46,000

[1] These are emission reductions expected to be achieved by application of appropriate control measures, not total emission inventories.

[2] This reduction is an estimate based on a preliminary survey of available data.

Area sources are an important source of VOC emissions which have often been overlooked in the past. On this list, traffic paint refers to coatings used to paint highway and parking lot stripes. Consumer solvent refers to solvents found in common household products such as hair sprays, deodorants, polishes, and cleaners. It may be possible to reformulate many of these area source products so that they still perform the same function, but contain lower amounts of VOC.

Non-CTG Control Technology Information Documents

The EPA has prepared a number of documents over the years which deal with control technology for VOC emission sources which have not been covered by a CTG. These non-CTG technology information documents have been published in a variety of ways. Some have been given EPA publication numbers and are widely available; others have been prepared by EPA region offices and have been distributed mainly within EPA. Other reports have been issued in draft form only, but nevertheless have received wide circulation as information sources. As States investigate ways to gain further emission reduction through stationary source control, they may find this information useful. Listed below are many of the technology information documents that have been prepared by EPA:

1. Summary of Technical Information for Selected Volatile Organic Compound Sources Categories, EPA–450/3–81–007, May 1981.

This document contains information on the following industries:

Adhesive Application
Asphalt Air Blowing
Barge and Tanker Cleaning
Barge and Tanker Loading
Beer Making
Fabric Printing
Flares
Lube Oil Manufacturing
Oil and Gas Production Storage Tanks
Petroleum Coking Processes
Solvent Extraction Processes
Surface Coating of Large Aircraft
Surface Coating of Large Ships
Surface Coating of Wood Furniture
Waste Solvent Recovery Industry
Wine Making
Styrene—Butadiene Copolymer Latex

2. Air Pollution Control Engineering and Cost Study of the Paint and Varnish Industry, EPA–450/3–74–031, June 1974.

3. Evaluation of the Problems Associated With Application of Low Solvent Coatings to Wood Furniture, EPA–600/2–87–007, January 1987.

4. Nonmethane Organic Emissions From Bread Producing Operations, EPA–450/4–79–001, prepared by Midwest Research Institute, December 1978.

5. Distillation Operations in Synthetic Organic Chemical Manufacturing, EPA–450/3–83–005a, December 1983.

6. Benzene Emissions From Coke By-Product Recovery Plants—Background

Information for Proposed Standards, EPA–450/3–83–016a, May 1984.

7. Surface Coating of Plastic Parts for Business Machines—Background Information for Proposed Standards, EPA–450/3–83–019a, December 1985.

8. Photochemically Reactive Organic Compound Emissions From Consumer and Commercial Products, EPA 902/4–86–001, prepared by EPA Region II, November 1986.

9. Evaluation of a Paint Spray Booth Utilizing Air Recirculation, EPA–600/2–84–143.

10. Benefits of Microprocessor Control of Curing Ovens for Solvent Based Coatings, EPA–625/2–84–031, September 1984.

The EPA Region IV has prepared, with contractor assistance, a number of reports on specific non-CTG sources in specific cities. These reports describe control technology which is available. The reports listed below were prepared by EPA Region IV.

11. Volatile Organic Compound Control at Specific Sources in Louisville, Kentucky and Nashville, Tennessee, EPA–904/9–81–087, December 1981.

This report discusses control technology for these industries:

Wood Furniture
Aluminum Rolling Mill Lubricant Control
Fiberglass Reinforced Polyester Boat Building (Styrene Emissions)

12. Technical Support in the Development of a Revised Ozone State Implementation Plan for Atlanta, Georgia, prepared for EPA Region IV by Pacific Environmental Services, EPA Contract No. 68–02–3887, August 1985.

This report includes:

Architectural Surface Coating
Automobile Refinishing
Commercial/Consumer Solvent Use
Fuel Combustion
Gasoline Volatility
Aircraft Emissions
Degreasing
Lawn and Garden Equipment

13. Summary Report for Technical Support in Development of a Revised Ozone State Implementation Plan for Memphis, Tennessee, prepared for EPA Region IV by Pacific Environmental Services, EPA Contract No. 68–02–3887, June 1985.

This multi-volume report includes:

Wood Furniture Coating
Barge Loading Facilities
Sheet Fed Paperboard Coating
Chemical Processing Plants
Solvent Extraction
Offset Lithography
Bulk Plants

14. Technical Information Document for Technical Support in Development of a Revised Ozone State Implementation Plan for Birmingham, Alabama, prepared for EPA Region IV by Pacific Environmental Services, EPA Contract No. 68–02–3887. This consists of a series of reports published in October and November 1984 and February 1985. Industries covered include:

Surface Coating of Large Aircraft
Paint Manufacturing
Coke Processes
Lamination of Vinyl Countertops
Mineral Wood Production Industry
Brick Manufacturing Industry
Explosives Manufacturing Industry

A number of control technology documents have been widely circulated as draft documents for review. Some of these documents have never been issued as final documents such as CTG's for various reasons, but they still contain much helpful technical information. Copies of some of these may be still available from EPA, especially from the Emissions Standards and Engineering Division of the Office of Air Quality Planning and Standards. Among these are:

15. Draft, "Control of Volatile Organic Compound Emissions From Full-Web Process-Color Heatset Web Offset Lithographic Printing," August 1981.

16. Draft, "Control Technique Guidelines for the Control of Volatile Organic Emissions From Wood Furniture Coating," April 1979.

17. Draft, "Fabric Printing Industry—Background Information for Proposed Standards", April 21, 1981.

18. Draft, "Economic Impact Analysis of Catalytic Incineration and Carbon Adsorption on the Fabric Printing Industry," November 1981.

19. Draft, "Control of Volatile Organic Emissions From Existing Stationary Sources: Paint Manufacturing Industry," U.S. EPA, OAQPS. In addition, EPA's Air Toxics Control Technology Center has issued the following report:

20. Air Stripping of Contaminated Water Sources, Air Emissions and Control, July 20, 1987, Prepared for Air Toxics Control Technology Center, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

Potential New Source Review (NSR) Measures

The primary approach a State could follow to mitigate the effects of growth by reductions through its NSR program would be to subject more sources to new source review.

The following measures are being suggested for States to consider in their control strategies as appropriate techniques to deal with growth. Under current rules, new sources and modifications may be exempted from the Part D major NSR requirements by: (1) Having a potential to emit below certain thresholds [100 tons per year (tpy) for new sources and 40 tpy of VOC for modifications to existing major sources]; (2) not being located in an area designated as nonattainment under section 107 of the Clean Air Act (Act); and (3) qualifying for one of the specific exemptions contained in the NSR regulations (e.g., conversion to municipal wastes for power generation, production increases not limited by a permit, increased operating hours).

Each of these situations has a separate set of possible solutions or revisions.

(1) *Thresholds*—The thresholds contained in the NSR program could be lowered to, say, 25 tpy for major sources and major modifications. A significant portion of the total VOC emissions generally come from small sources, so lowering cutoffs would bring significantly more of the VOC emissions into the major NSR program. Even 25 tpy threshold may not cover a majority of the emissions resulting from new sources. One study has shown that for VOC's, modifications and new sources emitting less than 5 tpy compose 55 percent of total new VOC emissions.

(2) *Location Outside Nonattainment Area*—States may wish to apply the nonattainment area NSR requirements of section 173 of the Clean Air Act (and State programs under that section) to sources located outside but near designated nonattainment areas.

(3) *Specific Exemptions*—The definitions currently contained in the NSR program exempt certain increases in emissions from being considered as a modification. These exemptions allow sources capable of accommodating alternative fuels or raw materials to switch fuels or raw materials (e.g., from oil to coal) without being subject to major NSR requirements. Also, sources may increase their operating hours (e.g., from 8 hours per day to 24 hours per day) and throughput (e.g., from 60 percent of capacity) to the maximum possible while meeting Federal NSR requirements (unless the changes are specifically limited by Federal enforceable conditions). States could remove these exemptions from the NSR regulations.

Appendix D—Discrepancies and Inconsistencies Found in Current SIP's

The EPA has reviewed a number of SIP's and found inconsistencies and discrepancies from established EPA policy and guidance. The following

discussion lists the most prominent problems and suggests corrections to these problems. While no State or local agencies are specifically identified, EPA intends to discuss individual State and local deficiencies with the appropriate agencies at the time the SIP call is made.

a. Achieve Consistent Implementation of New Source Review Programs

During its audits of State and local NSR programs, EPA has found considerable differences in how agencies implement their NSR regulations. EPA has found, for example, that many major modifications of sources escape preconstruction review and that lowest achievable emission reduction (LAER) determinations for sources subject to NSR are often inconsistent and insufficiently stringent. In many cases, these problems may result from improper interpretation of the applicable rules. To minimize the likelihood that this will occur in the future, EPA intends to develop guidance on such issues as how emissions increases and decreases should be calculated for netting purposes, when and how implementing agencies may use growth allowances as a substitute for offsets, and how to ensure that best available control technology and LAER determinations reflect the best technology for the source in question rather than simply the new source performance standards control level. The EPA also intends to increase its auditing and enforcement of State programs.

New Source Review Regulations

The primary focus of the new source review regulations is to evaluate the emissions impact of new or modified source projects before construction commences on the projects. The basic requirement for a new source of air pollution is to ensure that its emissions do not cause any new nonattainment situations or exacerbate any existing nonattainment problems. All sources must "prove," generally by modeling air quality impacts before and after the proposed change, that they do not cause or contribute to any nonattainment problem. For major new sources and major modifications wishing to locate in designated nonattainment areas, the applicant must also show that the most stringent pollution control equipment (LAER) is being installed, that all other sources owned by the applicant within the State are in compliance (Statewide compliance), and that the emission increases are either offset or taken into account with an approved growth allowance (emission offsets). These requirements are listed in the Clean Air Act in sections 172 and 173.

The wording in some State NSR regulations allows or has the potential to allow certain sources to avoid some or all of the intended requirements of new source review. This is in conflict with the Federal provisions, since State rules can be more stringent than the Federal provisions, but in no case can they be less stringent. The EPA believes that appropriate guidance and technical support can help ensure that States implement the new source review regulations in conformance with EPA policy; however, States may need to correct or clarify some of their regulations to avoid possible applicability or enforcement problems that may arise under new source review due to less stringent provisions. The following areas are the focus of efforts to achieve conformity with EPA policy.

Exemptions

Permit Conditions: Federal requirements state that only federally enforceable permit conditions may be used to exempt a source from the requirements for major sources. State operating permits and State consent decrees are not federally enforceable unless incorporated into the SIP either through EPA approved case-by-case rulemaking or through a generic mechanism. State preconstruction permits issued by States under EPA-approved SIP regulations pursuant to 40 CFR 51.18, 51.24, or 51.30, as well as construction permits issued by EPA or by delegated States under 52.21 are federally enforceable.

State Nonattainment Designations: The EPA will not permit a State to exempt sources located in nonattainment areas that the State has designated "attainment" without EPA approval. Similarly, States will not be permitted to use attainment demonstrations that have not received EPA approval to determine whether an offset or netting transaction is consistent with RFP.

General: States should revise their regulations to remove any regulatory provisions that could be used to exempt any source from any major NSR requirements. The only exclusions are those contained in the Federal definitions of major stationary sources [40 CFR 51.165(a)(1)(iv)] or major modifications [40 CFR 51.165(a)(1)(v)]. No source type (e.g., cotton gins, resource recovery facility) or source class (e.g. reactivated sources) may have a blanket exemption from any new source review requirement. This is a problem under the major source and major modification thresholds, since the NSR provisions require that all emission increases be accumulated for applicability purposes. For example, a single cotton gin may be a minor source, while four cotton gins (under common ownership) locating on one piece of land would constitute a major source or major modification. States may retain exemptions from *minor* source permitting requirements if (1) there exists a federally approved growth allowance to mitigate resulting increases in emissions and (2) State regulations expressly prohibit the use of the exemptions to exempt any major source or major modification from major NSR requirements.

Clean Spot Exemption: As a result of the August 1980 rulemaking which was conducted as part of the *Alabama Power* decision, State regulations cannot contain provisions that exempt a source from major new source review requirements where the source does not "significantly cause or contribute to a violation of a National Ambient Air Quality Standard." The August 1980 requirements subject any major source or major modification located in an EPA designated nonattainment area to the major NSR requirements regardless of the ambient impact of the source. Some SIP's, however, still retain this exemption and should be revised.

Offset/Netting Requirements [112]

Offsets: The EPA requires State regulations to contain enforceable and specific criteria on the credibility of emission reductions as offsets. These provisions must include a specific, well-defined baseline for emission increases and decreases, a requirement that all emission reductions used for offsets be federally enforceable (see section on permit conditions above), certain restrictions on the use of emission reductions caused by prior shutdowns and curtailments as offsets, and the prohibition of the use of any emission reductions already included in a State attainment demonstration. The last requirement listed is to ensure that a State does not use a reduction twice, i.e.,

[112] Pending, or future litigation, or subsequent rulemaking, particularly final resolution of the settlement agreement arising from the industry challenge to EPA's 1980 promulgation of revised NSR rules (*Chemical Manufacturers Association vs. EPA*, No. 79-1112, D.C. Cir., February 1982), may alter these requirements. See 48 FR 28742 (August 25, 1983) (proposed revisions). However, unless and until EPA finally revises the relevant regulations, the current requirements remain in effect. If a State changes its regulations to meet these requirements and EPA then relaxes these requirements pursuant to this CMA settlement agreement, EPA will allow the States to change their applicable regulations as appropriate.

once for attainment purposes and once for mitigation of new source growth.

Netting: The EPA requires State regulations to contain specific and enforceable criteria if a State wishes to allow a source to "net out" of major NSR review. A source "nets out" of major new source review by securing emission decreases within the source to mitigate increases from the same source, resulting in an "insignificant" emissions increase on a sourcewide basis. The Federal regulations require the following criteria for netting: (1) An "actual" baseline; (2) health and welfare equivalence between the emission increases and decreases; (3) Federal enforceability of emissions decreases (see section on permit conditions above); (4) a specific contemporaneous time frame (up to 10 years); and (5) the prohibition on the use of any reductions already incorporated in a State's attainment demonstration (see discussion on offsetting above). The health and welfare equivalence generally focuses on the concept of air quality; the air quality effects of the proposed netting action must result in equivalent or improved air quality. For "stable" pollutants, this places an emphasis on dispersion. For an ozone nonattainment area, the relative reactivities of the VOC species also plays an important role in air quality determinations. The State should not allow a netting transaction that causes an increase in a reactive VOC and a decrease in a negligibly reactive VOC even if the absolute amount of VOC emitted does not increase significantly. The contemporaneous timeframe is needed to ensure that increases are accumulated over a reasonable period of time, to discourage construction projects exempting themselves from NSR, and ensure that decreases are not so old as to already be taken into account in attainment demonstrations. Also, if a reduction occurred a very long time ago, that reduction should go towards assisting an area to show attainment rather than assisting a source to avoid major NSR requirements.

Definitions

VOC: NSR regulations should use a VOC definition that defines VOC as all organic compounds except those that EPA has listed in its Federal Register notices as nonphotochemically reactive. (See VOC definition in RACT regulations discussion.)

Other: NSR regulations should contain clear definitions, consistent with Federal requirements, for the following terms: Stationary source; actual emissions; allowable emissions; fugitive emissions; commence or begin construction; building, structure, or facility; and major stationary source. State regulations that do not contain good, concise definitions that meet the Federal requirements risk treating sources inequitably because of varying interpretations of the definitions. For example, minor variations in a State rule regarding the LAER definition which appear unimportant could allow a source to avoid installing proven technology by arguing that it costs too much, a result that is unacceptable using the EPA definition. The definitions must provide a framework to make decisions replicable among sources.

Small Sources

Lack of Minor Source and Minor Modification Review: As required by the Federal rules, SIP's should require a review program of all sources of air pollution regardless of size. This review must include an assurance that no new source or modification will interfere with attainment and maintenance of the standard as well as a requirement that all construction projects be subject to public comment procedure. Many States only have requirements for major sources and major modifications. States may only exempt minor sources from these requirements if (1) there exists a federally approved growth allowance to mitigate resulting increases in emissions and (2) State regulations expressly prohibit the use of exemptions to exempt any major source or major modifications from NSR requirements.

b. Ensure Conformity of SIP's With Existing EPA Policy

Although most SIP regulations have met the terms of EPA's requirements for Part D plans, EPA may have approved some SIP's containing rules that do not meet those requirements.

Some State regulations controlling VOC emissions are being implemented in a manner that is not consistent with EPA requirements and policies and can, in certain cases, significantly interfere with the effectiveness of those regulations. These implementation problems appear to be caused by incorrect or ambiguous definitions, variable interpretation, the lack of key provisions (e.g., compliance times, test methods, etc.), or specific provisions in State regulations that are inconsistent with current EPA policies. In some cases, these problems can interfere with the States' ability to (1) secure their expected emissions reductions from stationary source RACT regulations or (2) control emission growth through their NSR regulations. EPA plans to work with States to identify these problem areas and provide training, guidance, and other technical support to ensure that RACT and NSR regulations are effectively implemented.

Stationary Source RACT Regulations

The existing RACT regulations were developed as a major component of the SIP strategies to achieve VOC emission reductions. The following describes the areas where RACT regulations have been adopted and/or implemented on an inconsistent basis.

RACT Regulation Exemptions

Many of the CTG's that EPA issued in the late 1970's recommended that States exempt from their RACT rules only those sources falling below certain size or throughput cutoffs. Other CTG's recommended no such cutoffs. Some of the RACT regulations now in the SIP's, however, establish exemptions wider than those recommended in the CTG's or provide exemptions so ambiguous as to be susceptible to abuse. The EPA will require the States to amend such rules to ensure that these exemptions conform to the CTG recommendations in all cases except those for which the State provides adequate justification that the CTG level would impose unreasonable requirements in that State.

Definition of 100 Tons Per Year Source

The EPA guidance has called on SIP's for extension areas to require RACT for sources with the potential to emit more than 100 tons per year (tpy), but that do not fall into a CTG category. Although EPA intended the definition of source for this purpose to be the entire plant, some SIP's are susceptible to an interpretation requiring RACT only for individual emissions units emitting more than 100 tpy. Also, some SIP's are susceptible to a reading under which the source must apply RACT only if it has a potential to emit more than 100 tpy with controls. EPA intended, however, to have States apply RACT to non-CTG sources emitting more than that amount without controls. Therefore, EPA intends to require the relevant States to amend VOC rules that do not clearly reflect EPA's intent.

Other Issues

Existing VOC rules contain a variety of other ambiguities and exemptions that may impede efforts to achieve full RACT-level reductions. Although some of the affected State or local agencies currently interpret these rules consistently with EPA policy, courts will frequently turn to the actual words of the rules to decide the legal obligations of the affected sources. For that reason, EPA believes it is essential for States to

amend these rules to state clearly what is required. Until the States change these rules, the Agency will continue to interpret them consistent with EPA's intent when it approved them and will encourage the relevant State or local agencies to do the same. Examples of these deficiencies are described generally below.

Emission Limit Units: VOC rules incorporating limits expressed as pounds of VOC per gallon (lb VOC/gal) of coating should also list the equivalent lb VOC/gal of solids emission limit. It will be acceptable but not mandatory to totally replace pounds of VOC per gallon of coating units with units of lbs VOC per gallon of solids. VOC rules should state that units of lbs VOC/gal of solids be used for all calculations involving emission trades, cross-line averaging, and determining compliance by add-on control equipment such as incinerators and carbon adsorbers.

Exempt Solvents: Compliance calculations for coatings expressed as lb VOC/gallon coating (less water) should treat exempt solvents such as 1,1,1-trichloroethane and methylene chloride as water for purposes of calculating the "less water" part of the coating composition.

VOC Definitions: These rules should define VOC as all organic compounds except those that EPA has listed as photochemically nonreactive in its Federal Register notices. Many rules incorrectly contain a vapor pressure cutoff (e.g., 0.1 mmHg) that effectively exempts some photochemically reactive compounds (such as butyl dioxitol, a paint solvent, and certain mineral oils) from control. The following definition is a model for use:

Volatile Organic Compound (VOC)—Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the Administrator designates as having negligible photochemical reactivity. VOC may be measured by a reference method, an equivalent method, an alternative method or by procedures specified under 40 CFR Part 60. A reference method, an equivalent method, or an alternative method, however, may also measure nonreactive organic compounds. In such cases, an owner or operator may exclude the nonreactive organic compounds when determining compliance with a standard.

Other Definitions: A variety of other definitions in VOC rules are inconsistent with EPA's CTG's. EPA proposes to identify these deficiencies and require the States to remedy them.[113]

Transfer Efficiency: Transfer efficiency is a measure of how efficiently coating solids are applied to the objects being coated in spray coating operations. Increasing transfer efficiency reduces the amount of coating used for a particular job and may thereby reduce VOC emissions. Some States have attempted to provide sources with credit for transfer efficiency improvements.

The EPA proposes to require that sources be allowed to seek credit for transfer efficiency improvements only if the SIP specifies a baseline transfer efficiency and a test method acceptable to EPA for determining actual transfer efficiency. (The use of default, assumed or table transfer efficiency values would be unacceptable.) This could be done either with general or source-specific SIP revisions.

Cross Line Averaging: A source may use crossline averaging only upon (1) EPA approval as a source-specific SIP revision or (2) State adoption under a cross-line averaging or equivalency rule that EPA has approved generically.

Compliance Periods: VOC rules should describe explictly the compliance timeframe associated with each emission limit (e.g., instantaneous or daily). However, where the rules are silent on compliance time, EPA will interpret it as instantaneous. The rules could include periods longer than 24 hours only in accordance with the memorandum from John O'Connor, Acting Director of the Office of Air Quality Planning and Standards, dated January 20, 1984, entitled "Averaging Times for Compliance With VOC Emission Limits-SIP Revision Policy," and only as source-specific SIP revisions.

Recordkeeping: The EPA would require States to amend their VOC rules to require explicitly that sources keep records needed to assess compliance for the timeframe specified in the rule. Records must be commensurate with regulatory requirements and must be available for examination on request. The SIP must give reporting schedules and reporting formats. For example, these rules must require daily records if the SIP requires daily compliance. If a company is bubbling its emissions on a daily basis, the rules must require daily records to determine compliance. If units of lb VOC/gallon solids is used in calculations for daily compliance, the source must record gallons of solids used per day and pounds of VOC emitted per day. The rules should also require sources to list separately the amount of diluents and, where relevant to determining compliance, wash and clean-up VOC. Beyond that, they should require sources to document (1) that the coatings manufacturer used either EPA Method 24 or an EPA-approved State method to calculate the amount of VOC per gallon of coating (less water and exempt solvents) and (2) what method the manufacturer used to calculate the volume percent solids content of the coatings.

Test Methods: EPA will require States to amend their VOC rules to require the use of the most current test methods to determine the VOC content of coatings [e.g., EPA Reference Method 24 (1-hour bake) or equivalent ASTM Methods]. The method used to determine volume percent solids should be specific and should be an EPA-approved method (see "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA-450/3-84-019, December 1984). The procedures in outdated ASTM methods and the Volume II CTG are generally no longer acceptable. Procedures should specify that EPA or States may verify test data submitted by companies with independent tests and that EPA or State conducted tests will take precedence.

The EPA will also require States to amend their VOC rules to state the procedures to be used to measure capture and control device efficiencies. For example, the rules for some types of sources or control systems should require the use of temporary enclosures, rather than material balances, in capture efficiency tests. Provisions that require "well engineered capture systems" or "maximum reasonable capture" should be replaced with specific control requirements.

Equipment Leak Components: The EPA shall require equipment leak SIP regulations to be strengthened according to the intent of the CTG's. For example, sources that have previously been exempt from monitoring requirements due to line size or the use of plug and ball valves should become subject to the SIP requirements. In addition, SIP's should not exempt unsafe and inaccessible valves from all periodic

[113] For example, definitions of "coating line" should not exempt from control coating lines that do not have bake ovens. Also, definitions of "refinishing" in miscellaneous metal coating rules should make clear that "in-line" or "final off-line" repair by original equipment manufacturers is not refinishing. Refinishing should be defined as the repainting of used equipment. The definition of paper coating should be refined to make clear that the paper coating regulations cover coating on plastic film and metallic foil as well as paper. Paper and fabric coating should cover saturation operations as well as strictly coating operations. Vinyl coating definitions should make clear that organisol and plastisol coatings (which traditionally have contained little or no solvent) cannot be used to bubble emissions from vinyl printing and topcoating. Coating should be defined to include "functional" as well as protective or decorative films.

monitoring requirements. The EPA believes that inaccessible and unsafe-to-monitor valves should be monitored as often as practicable because of the potential for finding leaks and reducing emissions. The EPA does not consider annual monitoring or monitoring at shutdown to be an unreasonable burden for inaccessible and unsafe-to-monitor valves.

For natural gas plants, RACT should apply to equipment that contains or contacts a process stream with a VOC concentration of 1.0 percent by weight or more. Equipment with process streams containing relatively low percentages of VOC (i.e., between 1.0 and 10.0 percent) contributes a significant portion of total emissions from natural gas plants and, therefore, is subject to RACT requirements.

Exemptions and Variances: Many SIP's contain provisions giving the State authority to grant variances, exemptions, and alternative means of control strategies. SIP's must clearly state whether EPA approval of such variances is required on a case-by-case basis before such a variance, exemption, or alternative means becomes federally-effective. Provisions that are intended to be generic (i.e., not requiring case-by-case EPA approval for the alternative means to be federally-effective) must meet the general principle of replicability described in EPA's Emissions Trading Policy Statement (51 FR 43814, December 4, 1986).

Appendix E—Guidance Document on Enhanced I/M

I. Introduction

The EPA has considered the potential for greater VOC and CO reductions from vehicle inspection and maintenance programs, and believes that substantial enhancement is available.

The EPA is considering a variety of options relative to enhanced I/M, including establishing a specific enhanced I/M performance level for some nonattainment areas as well as relying on the 3 percent reduction requirement to force consideration of enhanced I/M in lieu of a mandated performance requirement. The latter option would allow States to consider the benefits of enhanced I/M, along with those of other control measures, in deciding how to meet the 3 percent average annual reduction requirement.

The other option toward which EPA is presently learning would be to establish a specific enhanced I/M requirement for areas with relatively serious ozone or CO nonattainment problems. The remainder of this appendix describes aspects of and issues related to a separate enhanced I/M requirement, if adopted.

Possible enhancements fall into four categories. First, operating losses due to improper inspections, incomplete enforcement, or lenient repair waiver systems can be reduced. Second, additional vehicles which are exempt based on age, or vehicle type can be made subject to the inspection requirement. Third, the emission test portion of the periodic inspection can be made more sophisticated or the pass/fail limits or cutpoints more stringent. Fourth, important emission control components can be checked visually, or by other means that do not involve emissions measurement, for evidence of tampering or misfueling.

The concept of "enhanced I/M," therefore, covers both increases to the coverage and stringency of inspection, and improved management practices to assure full effectiveness. The requirements being considered for areas adopting enhanced I/M are explained in detail below.

II. Background

In 1978, EPA first established policy for the implementation of the I/M programs required under the Clean Air Act Amendments of 1977. This policy addressed the elements to be included in SIP revisions, minimum emission reduction requirements, administrative requirements, and schedules for implementation. Approvable I/M programs were to be in place in all ozone and CO extension areas by the end of 1982, and were to produce at least a 25 percent reduction in light-duty vehicle hydrocarbon exhaust emissions and at least 3 percent reduction in CO exhaust emissions as of the end of 1987.

At this time, there are I/M programs operating in 60 urban areas in 32 States. There are a variety of program designs in place, some which just exceed minimum levels, and some which contain additional measures to achieve greater emission reductions. The EPA audits of I/M programs over the last 3 years have identified both considerable accomplishments by State and local agencies in implementing programs successfully, and a number of operating problems. These audit findings serve as the basis for the increased stringency and the additional administrative requirements associated with enhanced I/M.

III. New Performance Standard for VOC and CO Reductions

The EPA has developed a computer model which it proposes to use to assess the benefits of various I/M program designs, expressed as annual tons of reduction from a typical urban fleet of one million vehicles. The model is based on MOBILE3, but performs additional manipulations of the emission estimates. The assumptions employed in this computer model are explained in detail in the technical report, entitled "Method for Estimating the Cost-Effectiveness of Inspection/Maintenance Program Designs."

The EPA is leaning toward a nominal performance standard to be achieved by enhanced I/M of 5700 tons of HC and 69,000 tons of CO per year per million light-duty vehicles over the first 5 years of operation of the enhanced program. This level represents the design level of the third most stringent of the 27 or so distinct I/M programs currently in operation. As discussed in the preamble of this policy, EPA is also considering other performance levels which could be established, if a separate enhanced I/M requirement is adopted. The level of performance described above would be equivalent to the following design:

—Centralized biennial inspections
—20 model years of passenger cars and light trucks
—20 percent stringency for pre-1981 vehicles
—Idle test
—207(b) cutpoints for 1981+ vehicles (1.2 percent CO/220 ppm HC)
—Catalyst, inlet, and lead deposit inspections on 1981+ vehicles
—5 percent waiver on the emission short test

Programs which vary from this design yet have equivalent emission reductions would be acceptable. For example, decentralized biennial inspections and/or fewer model years of coverage are also allowed, provided other features of the program design are strengthened such that the estimated benefit meets the new performance standard.

Programs may show equivalency to this design using either national or local conditions of tampering/misfueling rates, vehicle type mix, average speed, etc. Use of local conditions may result in a performance standard different than 5700/69,000; in all cases, equivalency to the above design would be the controlling criterion for approval.

The new computer model has two features which were not included in MOBILE3 but which grew out of the past 3 years of evaluating operating programs. First, for purposes of SIP approval, decentralized programs will be credited with identifying and repairing existing tampering at a rate which is less than that modeled for centralized programs. The initial analysis suggests a reduced

effectiveness of decentralized programs of about 50 percent. Comment is specifically requested regarding the appropriate effectiveness level of decentralized tampering programs and what design features might be necessary to ensure that level of effectiveness. Comment is also requested regarding the related issue of whether the proposed enhanced I/M performance requirement is appropriate for both centralized and decentralized programs.

Second, all programs which allow waivers must assume for purposes of SIP approval a target waiver rate which will be translated into a corresponding percentage loss of the repair benefit on the emission short test. In previous SIP approval actions on I/M program designs, EPA assumed no loss of benefits due to waivers. The administration of the waiver program is discussed later in this document.

Programs which are not enforced through a registration denial system must also make adjustments of the projected benefit based on recent operating experiences. Those with known enforcement shortfalls must assume continuation of the shortfall for SIP submittal purposes. Programs may conduct new surveys to document improvements believed to have occurred since the last EPA survey, but such surveys may not be influenced by any one-time special enforcement effort.

IV. Where Enhanced I/M Would Be Required

The EPA will call for new SIP's in areas which continue to exceed the NAAQS for ozone and carbon monoxide after December 31, 1987. Each area receiving a SIP call will have two years to submit a plan which contains detailed information on emission inventories, new control measures, and a demonstration of attainment of the NAAQS by a specific date.

If a separate enhanced I/M requirement is adopted, the EPA intends to require enhanced I/M for severe and/or long-term nonattainment areas. Urban SIP-call areas with greater than 200,000 population and with ozone design values of 0.16 ppm or above and/or carbon monoxide design values of 17 ppm or above will be subject to this requirement.

A nonattainment area with population greater than 200,000 with design values below 0.16 ppm ozone and 17 ppm CO would also be required to implement enhanced I/M, unless the EPA approved modeled attainment demonstration for the area shows that it is not a long-term nonattainment area, i.e., that attainment will be achieved within 3 years after EPA's approval of the SIP.

An area needing less emission reduction to demonstrate near-term attainment may include none, part, or all of the enhanced I/M measure as one of its locally selected controls.

V. Geographic Coverage

For extension areas and post-1982 SIP call areas, EPA previously required that the minimum performance level be met for vehicles registered within the affected urbanized area as defined by the U.S. Census. Under an enhanced I/M requirement, if adopted, the coverage area would remain the urbanized area. Emission reductions obtained from vehicles outside the area but within the Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area would not count toward meeting the enhanced I/M performance level, but would assist the area to meet its emission reduction target overall.

VI. Implementation Schedule

There is a considerable amount of variation in the types of steps individual areas will need to take to enhance their I/M programs. In some cases, new legal authority will be necessary, followed by rule changes. In other cases, rules would be modified under existing basic authority. The longest leadtime would occur where a complete system change (i.e., from decentralized to centralized inspections) was contemplated.

Each severe and/or long-term nonattainment area receiving a SIP call should move as expeditiously as possible to satisfy the enhanced I/M requirement, if adopted. The EPA expects that even the long leadtime program enhancements would be implemented by January 1, 1990, unless adequately documented circumstances prevent it. The initial SIP submittal in response to the SIP call must contain all enforceable rules and regulations for enhanced I/M.

VII. New Administrative Features

If EPA decides to adopt a separate enhanced I/M requirement, in addition to the emission reduction requirement being considered, and the minimum program requirements established in previous EPA policy, all enhanced I/M programs will also be required to:

1. Incorporate appropriate criteria for the issuance of cost waivers;

2. Employ measures to assure proper inspection in decentralized programs including a requirement for computerized analyzers in licensed stations unless alternative approaches have been proven and accepted by EPA as effective;

3. Conduct activities to improve the repair effectiveness of the commercial sector; and

4. Perform certain program assessments and evaluations.

A. Waivers

As mentioned previously, the model program design used to determine the enhanced I/M performance standard being considered assumes that five percent of the failed vehicles will receive repair cost waivers, and will achieve no emission reduction benefit on average. This waiver rate is actually lower than that experienced in many currently operating I/M programs, and represents stricter control and tighter requirements for waiver issuance.

Areas implementing enhanced I/M and wishing to maintain a repair waiver should include at least the following criteria for receiving a waiver in their program rules:

1. The vehicle must be greater than 5 years old or exceed 50,000 miles. (Owners of failed vehicles should be informed that warranty coverage may be available, and the SIP should contain a plan for assisting owners with warranty difficulties.)

2. The vehicle must pass a catalyst and inlet check, and a check for tailpipe lead deposits.

3. The motorist must spend at least $75 for pre-1981 vehicles and $200 for 1981+ vehicles on emission diagnosis and repair related to the I/M failure. 1981+ vehicles waived one year under these cost rules may be waived in the subsequent annual or biennial inspection cycle with only a $75 expenditure.

For the purpose of SIP approval, enhanced I/M areas will commit to holding waivers to a target rate. Program effectiveness will be measured using actual waiver rates.

B. Repair Effectiveness

The enhanced I/M SIP revision must include a plan for identifying individual providers of I/M repair services, statistically monitoring their performance in terms of waivers and post-repair emission levels, and counseling/training the poor performers among them. This will require, at a minimum, that drivers of retested vehicles identify the facility which performed the repairs, and that the I/M program enter this into a database along with retest scores. Licensing of repair facilities, however, is not necessary to satisfy this requirement.

C. Proper Inspection in Decentralized Programs

Unless alternative approaches have been proven and accepted by EPA as effective, licensed inspection stations in decentralized programs must be required to use computerized emission analyzers which restrict operation unless specific quality control checks are satisfied; which accept vehicle identification and other information; and which automatically make the pass/fail decision, provide hard copy output, and store pertinent data for future analysis.

Automated quality control checks are required both to assure adequate instrument accuracy (e.g., unit warm-up, periodic gas span and leak checks) and to assure that the emission test is not deliberately defeated. An engine speed (RPM) lockout criterion must be included which has a ceiling during idle of not more than 1600 RPM. The analyzers must be capable of reading RPM on any of the current or planned distributorless ignition systems which have significant market penetration. A bypass of the RPM lockout is permitted to accommodate individual vehicle testing problems and future, unanticipated technologies with small market penetration. The use of the bypass, however, must raise a flag in the recorded data.

The analyzer must also measure carbon dioxide ($CO_2$2) in order to invalidate a test where excessive dilution of the sample is occurring. The CO plus CO_2 threshold must be no lower than 4 percent.

There must be a positive, retrospective verification that a passing initial test, passing retest after repair, or official waiver is recorded for each windshield sticker or certificate of compliance that is issued. At a minimum, station by station totals of inspection records and stickers/certificates must be compared on a monthly basis, with established procedures for handling stations with discrepancies.

Statistics on failure rates and waiver rates must also be available by station, and an internal management report must be generated, reviewed, and acted upon monthly which identifies stations with unusual statistics.

The SIP must commit to sufficient program administration and enforcement to achieve the claimed emission reductions. Such efforts should include routine analysis of inspection data for RPM excursions, dilution failures, time between tests, et cetera, to identify and investigate stations with suspicious inspection practices, and a program to conduct undisclosed audits of inspection stations on at least an annual basis.

The SIP must also contain a formal plan for processing and penalizing violations of procedures, whether discovered through periodic audits or covert audits.

D. Program Assessment

Each I/M program must prepare and submit a report to EPA on a semi-annual basis. The report would contain the results of data analysis conducted by program officials, a description of significant changes in the program that were implemented in the last 6 months, a description of significant problems experienced and a description of any changes to the program that are being planned. The following list describes the minimum data necessary for the semi-annual report. Each of these items should be provided for the past 6 months and for the past 12 months.

(1) Estimated number of vehicles required to be inspected.

(2) Number of vehicles recorded as receiving initial inspection by model year.

(3) Number of vehicles failing the initial emission test by model year.

(4) Number of vehicles failing each retest by model year.

(5) Number of vehicles failing for each tampering component for which SIP credit is claimed by model year.

(6) Number of vehicles receiving waivers by model year.

For programs that have both centralized and decentralized components, the data must be reported separately for each component.

In addition to the minimum data reporting requirements described above, additional information is needed from decentralized programs. The semi-annual report must contain information relating to station performance. At minimum, the following items must be generated and available to EPA on request:

(1) Number of vehicles inspected by station and by model year,

(2) Number and percentage of vehicles failing the initial emission test by station and model year,

(3) Number and percentage of vehicles failing the retest by station and by model year,

(4) Number and percentage of vehicles failing for each tampering component for which SIP credit is claimed, by station,

(5) Number and percentage of failed vehicles receiving waivers by station and by model year,

(6) Number of overt station audits conducted,

(7) Number and types of covert surveillance activities conducted,

(8) Number of facility licenses outstanding at the end of reporting period,

(9) ID numbers of stations warned, suspended, or revoked for violation of rules, and

(10) Number and percentage of analyzers found malfunctioning (out of calibration, leak problems, etc.) during the most recent audit cycle.

VIII. Effectiveness Tracking and Evaluation

If EPA decides to adopt a separate enhanced I/M requirement, each enhanced I/M area will be required to commit to conducting an annual self-evaluation. The date for submitting the evaluation results each year would be specified in the SIP.

If a separate enhanced I/M requirement is adopted, a random roadside or equivalent fleet survey will be required annually by each enhanced I/M area to measure the emission failure rate and the tampering rate for those model years and components which are covered by the enhanced I/M program. The survey methodology must be approved in advance by EPA.

The tampering rate found in the survey will be compared to what the emission factor model predicts under national average conditions or, if available, to local rates from recent, pre-enhancement, EPA-approved surveys.

Emission results from the survey will be used to calculate an expected failure rate for the I/M program. This expected failure rate, and the roadside tampering rate will then be used, along with the program's reported failure rate, compliance rate, and waiver rate to determine whether the program's emission reductions meet the level of the SIP commitment. The guidelines for performing the numerical analysis are contained in the report entitled "Method for Determining Required Emission Reduction Compliance in Operating Inspection/Maintenance Programs."

If the emission reductions do not meet the level for which credit is claimed in the SIP, a corrective plan must be submitted to EPA within 3 months of the annual evaluation date. The corrective actions must be implemented by the next annual evaluation. If the SIP-approved levels of effectiveness are not being met at the time of the next evaluation due to a continuation of the previous identified problems, EPA would then initiate the process of proposing appropriate sanctions.

Appendix F.—Glossary of Terms

Term	Definition
Adjacent rural area	A county with monitored ozone violations touching an MSA measuring nonattainment.
ASTM	American Society for Testing & Materials.
Attainment demonstration	A documented prediction that emissions reductions from local and national measures will be sufficient to reduce pollutant concentrations ozone to levels at or below the NAAQS by a fixed, certain date.
Attainment inventory level	The total emission inventory at the time an area attains the NAAQS.
CAA	Clean Air Act, as amended 1977.
CMSA	Consolidated Metropolitan Statistical Area.
CO	Carbon Monoxide.
CTG	Control Technique Guideline document: Guidance documents published by EPA describing RACT for selected VOC sources.
Design value	The current air quality "design value" is the ozone level which represents the degree to which the 0.12 ppm NAAQS is exceeded. Where 3 years of complete data (i.e., at least 75 percent of the days during the ozone season having valid daily maxima) exist at a site, the site-specific design value is the fourth highest measured ozone level during the period. For 2 years of complete data, it is the third highest, and for 1 year of complete data, it is the second highest. Most cities had 3 years of complete data. In the case where there is more than one monitoring site, the design value for the MSA or CMSA is the highest of the site-specific design values.
EKMA	Empirical Kinetic Modeling Approach, an urban-scale, simplified atmospheric simulation model relating VOC and NO_x to ozone, used to predict the level of control required to attain.
Enhanced I/M	An inspection/maintenance program achieving additional emission reductions from increases to the coverage and stringency of inspection and management practices.
Extension area	An area that received EPA's approval to an extension under section 172(a)(2) of the Act to provide for attainment of the ozone or CO NAAQS by December 31, 1987.
FMVCP	Federal Motor Vehicle Control Program: A program of federally-required vehicle emission controls that reduce exhaust and evaporative emissions.
Hot spot	A CO problem limited to local violations of the CO standard and correctable by short-term, local transportation control measures.
I/M	Inspection and Maintenance, a program requiring testing or inspection and repair of vehicles failing test or inspection.
Isolated rural area	A county which is (1) not within or adjacent to a nonattainment MSA and (2) contains a site measuring violations of the NAAQS.
LAER	Lowest Achievable Emission Rate, applicable to new major sources or major modifications subject to new source review.
Long term area	An area that cannot demonstrate attainment of the standards within 3 years of EPA approval of the SIP.
Major source	A stationary source of pollution with a potential to emit 100 tons/year or more (uncontrolled) of a pollutant (e.g. VOC's).
MOBILE3, MOBILE4	A computerized matrix of highway vehicle emission factors used to generate mobile source emissions in an area.
MSA	Metropolitan Statistical Area: An area meeting standards established by OMB to refer to urban areas generally with populations over 50,000.
NAAQS	National Ambient Air Quality Standard.
NAAS	National Air Audit System: The coordinated effort by EPA and States in which SIP status, implementation, and compliance are reviewed annually.
NMOC	Nonmethane Organic Compound.
NMOC/NO_x ratio	An indicator useful for predicting the success of NO_x reductions to assist VOC controls.
Nonattainment area	Any area measuring violations of the NAAQS.
Nonextension area	An area that did not receive EPA's approval of an extension under section 172(a)(2) to provide for attainment of the ozone or CO NAAQS after 1982 but by December 31, 1987.
NO_x	Nitrogen Oxides.
NSR	New Source Review.
OAQPS	EPA's Office of Air Quality Planning and Standards.
O_3	Ozone.
Part D	A major part of the Clean Air Act specifying requirements for designated nonattainment areas.
PSD	Prevention of Significant Deterioration.
RACT	Reasonably Available Control Technology.
Reasonable efforts	The "test" in section 176(a) of the Act of whether the 176(a) sanctions should be applied. Used in the policy, the test is applied to areas with longer term attainment dates to determine whether any additional sanctions (beyond the construction ban) are applicable.
Redesignation	The process by which an area's designated nonattainment status is changed to attainment.
Reporting year	The year covered in the annual reasonable further progress (RFP) report.
RFP	Reasonable further progress: A term defined in Part D of the Act meaning annual emission reductions, including substantial reductions in early years. In the policy, RFP means the required rates of progress applicable to long-term areas.
ROM	Regional Oxidant Model: A regional-scale photochemical grid model used to estimate ozone concentrations over a broad geographic area.
RVP	Reid Vapor Pressure: A measure of the volatility of petroleum liquids (e.g., gasoline).
SIP	State Implementation Plan.
SIP call	A process by which EPA notifies a State that its SIP is substantially inadequate and requires corrective action.
TCM	Transportation Control Measure.

Term	Definition
Transport	Term referring to the movement by the wind flow of ozone and/or its precursors (VOC and NO_x) from a source area to an impact area several hours to several days downwind.
Urban Airshed Model	An urban-scale photochemical grid model used to estimate ozone concentrations, typically in an urban area.
Urbanized area	A term used by the Census Bureau for a central city or cities, generally of at least 50,000 inhabitants, and surrounding closely settled territory.
VOC	Volatile Organic Compound.
VMT	Vehicle Miles Travelled: Estimates of the distances driven by highway vehicles in an area used in combination with MOBILE 3 or MOBILE 4 emission factors to generate total mobile source emissions.

Appendix G—Regional Office Contacts

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Appendix H—Selected EPA Guidance for SIP Development

The following list identifies selected EPA guidance for SIP development.

—Administrator's comprehensive SIP revision guideline memorandum February 24, 1987 (43 FR 21673, May 9, 1978)

—General Preamble for proposed rulemaking on approval of plan revisions for nonattainment areas (44 FR 20372, April 4, 1979)

—Final Policy—Criteria for Approval of 1982 Plan Revisions (46 FR 7192, January 22, 1981)

—Final action on rulemaking—compliance with statutory provisions of Part D of the Clean Air Act, (48 FR 50686, November 2, 1983)

—I/M Policy Memorandum from David Hawkins to Regional Administrators, July 17, 1978

—Guidance document for correction of Part D SIP's for nonattainment areas, OAQPS, January 27, 1984

—CTG RACT applicability, memorandum from Darryl D. Tyler to Regional Air Directors, June 25, 1984

—Redesignation criteria, memorandum from Sheldon Meyers to Regional Air Division Directors, April 21, 1983

—Memorandum of Understanding Between DOT and EPA regarding the integration of Transportation and Air Quality Planning, June 1978

—EPA-DOT Transportation-Air Quality Planning Guidelines, June 1978

—EPA-DOT Expanded Public Participation Guidelines, June 23, 1980 (45 FR 42023)

—DOT-EPA Procedures for Conformance of Transportation Plans, Programs and Projects with Clean Air Act State Implementation Plans, June 12, 1980

—Policy and Procedures to Implement Section 316 of the Clean Air Act, as Amended, memorandum from Douglas M. Costle to Regional Administrators, Region I–X, July 23, 1980 (45 FR 53382)

—40 CFR Part 51, Subpart M—Intergovernmental Consultation, June 18, 1979 (44 FR 35176)

—Guidance document for Post 87 CO/Ozone SIPs (to be completed)

a. Improving Existing Program Effectiveness

Source surveillance and inspection
Rule/measure evaluation procedures
Regulation effectiveness guidance
Ambient monitoring- site selection, q.a., data validation Ozone and NMOC

b. Measures

Enhanced Inspection/Maintenance
Basic Inspection/Maintenance
Stationary Source RACT
CTG's I, II, III—currently available
Presumptive RACT
Guideline for Developing Enforceable Emission Regulations
Stage II regulations
New Source Review
Transportation Control Measures
Effectiveness credit/monitoring program

c. Demonstration of Attainment

Development of local Emissions Reduction Slope and attainment date criteria
Emission Inventory Requirements for Post–87 Ozone/CO SIPs
Methods for determining effectiveness credits
Modeling—EKMA : Airshed : ROM
CO modeling : Mobile3/4
General Strategy Considerations planning areas vs control areas growth projections, documentation, and population consistencies:
NO_x control strategies
Isolated rural area—ozone self generation determinations

d. Measuring and Assuring Continued Progress

Revised Guidelines for Tracking Reasonable Further Progress in Ozone/CO Control Programs
Continuity of control measures
Establishment of emissions ceiling and growth impact
Segment Revisions—Validation of previous segment & next segment's refinement
Future SIP revisions/demonstrations

Appendix I—Modeling Procedures and Data Base Requirements to Support Post-1987 Ozone Policy

I. Introduction

The EPA is proposing procedures addressing the need to reduce ozone (O_3) in locations which fail to meet the NAAQS for O_3 by December 31, 1987. One part of the proposal requires MSA's not in attainment of the NAAQS to determine how much additional reduction in O_3 precursors (i.e., VOC and, in some cases, NO_x) is needed to attain the NAAQS. This determination is to be made using one of two modeling approaches. The first is photochemical grid modeling. The preferred model is the Urban Airshed Model, described in *Guideline On Air Quality Models (Revised)* (Reference 1), in *SAI Airshed Model Operations Manual* (Reference 2), and in *Guideline For Applying The Airshed Model To Urban Areas* (Reference 3). Input requirements for the Urban Airshed Model are described in References 1 and 2. Minimum data bases needed to satisfy these requirements are likely to vary, depending on the complexity of the situation being simulated. Thus, a minimum data base to support an Urban Airshed Model application must be determined on a case-by-case basis in consultation with the appropriate U.S. EPA Regional Office.

The second acceptable modeling approach is use of the EKMA. The EKMA model and its application in SIP's is described in the *OZIPM4 Users Manual* (Reference 4), and in the *Guideline for Use of EKMA in Post-1987 SIP Applications* (Reference 5). The purpose of this notice is to briefly describe the EKMA modeling approach and to identify data base requirements to support the use of EKMA in post-1987 SIP's for O_3. In order to explain why these data are needed, it is useful to briefly describe the conceptual basis for the model.

II. Model Description

The model underlying EKMA simulates chemical reactions in a well mixed column of air containing initial concentrations of precursors and O_3 from the city being simulated. The simulation begins at 8 a.m. Local Civil Time (LCT). At this time, the column is assumed to be located over the center of the city being modeled. Subsequently, the column migrates at a uniform speed from center city to that O_3 monitoring site observing the maximum O_3 concentration on the day being modeled, so that the column arrives over this site at the time of the observed maximum concentration. As the column moves, precursor emissions [114] are injected into it from sources in the county or counties traversed by the column. In addition, the height of the column increases to simulate diurnal growth in the surface mixing layer. As a result, two things happen: (1) O_3 and precursor concentrations already within the column become diluted; and (2) O_3 and precursors aloft (presently due to transport from sources located upwind from the city being simulated) are entrained into the column to participate in subsequent chemical reactions.

The scenario described in the preceding paragraph is repeated numerous times. On each such occasion, all model inputs are kept constant, except for initial concentrations of NMOC, NO_x and emissions of VOC and NO_x. As a result, O_3 isopleth diagrams can be drawn. These diagrams plot maximum hourly O_3 as a function of initial NMOC and NO_x, and fresh VOC and NO_x emissions, (i.e., post-8 a.m. emissions). Each O_3 isopleth represents a constant concentration of O_3. VOC and/or NO_x control estimates are obtained by determining the relative reduction in VOC and/or NO_x needed to move from an observed O_3 concentration to the level specified in the NAAQS (i.e., the 0.12 ppm O_3 isopleth) as illustrated in Figure 1.

[114] Volatile organic compounds, nitrogen oxides, and carbon monoxide (CO).

III. Model Inputs

Control estimates obtained with EKMA depend on three things:

(1) Starting point on the isopleth diagram;

(2) Shape and spacing of the O_3 isopleths; and

(3) Changes in inputs affecting the shape and spacing of the isopleths between the base period (i.e., present) and projected period (i.e., future).

The first two of these factors can be affected by the data base used to support EKMA analyses, and are elaborated upon below. The third factor depends on projections of these inputs, and is described in references 4 and 5.

A. Starting Point on Diagram

The starting point on the diagram depends on two inputs:

(1) Maximum hourly O_3 concentration observed on the day and at the site being modeled; and

(2) A representative value for the NMOC/NO_x ratio observed before the onset of photochemistry in locations with high precursor concentrations (i.e., having the greatest potential to lead to high subsequent O_3 concentrations).

B. Shape and Spacing of Isopleths

Shape and spacing of the isopleths depend on the following model inputs:

(1) The chemical mechanism (i.e., a sequence of chemical reactions which describes atmospheric chemistry by which ozone forms) used in the model. The Carbon Bond 4 (CB4) mechanism will be used in regulatory applications of EKMA. This mechanism is presented in Reference 4. Reasons underlying its selection are outlined in Reference 6.

(2) Composition (i.e., reactivity) of the ambient NMOC and NO_x. In most cases, a default composition will be used for NMOC. The recommended default composition is based on NMOC species analyses performed on samples collected in 35 cities during 1984–86. In certain extraordinary cases, a city-specific NMOC composition may be used after consultation with, and approval of, the appropriate EPA Regional Office. The default recommendations, their basis, and possible reasons justifying use of city-specific values are outlined in References 5 and 7. For EKMA applications, the composition of fresh VOC emissions is assumed to be identical to the measured composition of initial urban NMOC. The fraction of initial NO_x and NO_x emissions which is NO_2 may also be specified as described in References 4 and 5.

(3) Amount of fresh VOC, NO_x, and CO emissions (i.e., "post-8 a.m."

emissions) injected into the hypothetical column of air. Calculation of "post-8 a.m." emissions for use in the model is described in Reference 5.

(4) Sunlight intensity and Ultraviolet (UV) wavelength distributions. As described in References 5 and 8, these are calculated by the program once the user specifies the date and location (i.e., latitude, longitude, and time zone) being simulated.

(5) Atmospheric dilution. Dilution is considered by increasing the height of the mixing layer during the day. In accordance with References 4 and 5, the user specifies an 8 a.m. and daily maximum mixing height and the time at which the increase in the mixing height begins. As described in Reference 5, default values are recommended for minimum 8 a.m. mixing height, since physically induced turbulence from urban structures may cause mixing estimates derived from city-specific measured temperature soundings (usually taken at rural or suburban locales) to be too low at this time of day.

(6) Transport. Shape and spacing of isopleths can be influenced by concentrations of O_3 and NO_x, as well as by the concentration and composition of NMOC, transported from upwind sources. Transported pollutants can be present initially within the surface-based column, as well as within a layer of air above the surface mixing layer. As the simulation proceeds, the layer of air aloft containing transported pollutants gets entrained into the column as a result of the increase in mixing height. Day-specific values for transported O_3 can be estimated from data routinely obtained by an air quality monitoring network meeting certain minimal requirements, to be described subsequently. For the urban model applications for which EKMA is intended, transported NO_x can be assumed to be negligible. Transported levels and composition of NMOC are generally not available from routine measurements. Default recommendations are provided as described in References 5 and 7.

IV. Minimum Data Base Recommendations

In order to provide the input information needed to provide reliable control estimates with EKMA, State/local agencies are urged to compile data bases consistent with certain minimum recommendations. These recommendations are identified below.

A. Emissions Data

Emissions data are needed to estimate hourly values for "post-8 a.m." VOC, NO_x, and CO emissions input to the model. In addition, since a key model output is the percent reduction in VOC and/or NO_x emissions needed to attain the O_3 NAAQS, the base period emission inventory must be accurately known in order to derive appropriate absolute emission targets. Further, these targets are arrived at after an assessment of changes in CO emissions has been made. These latter two uses require that VOC, NO_x, and CO emission inventories be compiled for the entire MSA. Emission inventory recommendations for post-1987 SIP's are described in greater detail in Reference 9.

1. *Temporal Resolution of VOC, NO_x, and CO Emissions.* Diurnal patterns of VOC, NO_x, and CO emissions (on an hour-by-hour basis) are needed. Detailed procedures for deriving temporally resolved emission inventories for use with EKMA are described in Reference 10.

2. *Spatial Disaggregation of Emissions.* Spatial disaggregation of emissions on a countywide basis is recommended. Ordinarily, all surface or near-surface emissions within the county in which the simulated column of air is located are assumed to be injected into the column. In addition, separate consideration of emissions from large point sources expected to have effective stack heights greater than 250m is recommended so that subsequent entry of these plumes into the surface mixed layer can be considered by the model. Consideration of such sources is described in Reference 5. In cases where very large counties exist in which the bulk of emissions is concentrated in a portion of the county, subcounty emission allocations are recommended. These subcounty allocations should cover an area no larger than the area traversed by EKMA's simulated column of air on the day being modeled.

3. *Disaggregation of VOC Emissions by Chemical Species.* It is not necessary to speciate VOC emissions for applications of EKMA. As described earlier, a composite default composition for VOC emissions is assumed. Nevertheless, certain organic compounds deemed "unreactive" should be excluded from the VOC inventory estimate. These compounds are identified in Reference 9.

B. Air Quality Data

1. *O_3 Monitors (at Least Five Sites).* Five monitoring sites employing reference or equivalent methods for measuring O_3 (Reference 11) are recommended as a minimally acceptable network. The sites should not be influenced by microscale impacts. O_3 monitoring data are needed to support EKMA analyses in two ways. First, the data depict high daily maximum O_3 within and downwind of the MSA being modeled. Daily maximum O_3 concentration is one of two pieces of information needed to establish a starting position on an EKMA isopleth diagram. The second use for O_3 data is to estimate the amount of O_3 transported to the modeling domain from upwind sources. These data are used, as described in References 4 and 5, to estimate O_3 transport input to the model.

Daily maximum O_3 needs to be accurately characterized under a variety of meteorological scenarios (e.g., steady winds, stagnations, etc.). This is necessary, because control estimates to reduce O_3 to the level of the NAAQS may be greater under some circumstances than others. That is, there is not necessarily a 1:1 correspondence between extent of needed control measures and severity of the O_3 problem on individual days. Further, a network addressing several likely meteorological scenarios is needed to provide greater assurance that the NAAQS is being attained when the expected "exceedance" rate is ≤ 1.0 at each site. The network design suggested below addresses several sets of conditions representing winds of varying velocities and persistence.

1 Monitor: 10–30 miles in the predominantly upwind direction from the city limits. Minimum distance upwind should be determined on a case-by-case basis, depending on city size and surroundings. Data from this monitor are to be used primarily to estimate O_3 transported to the model domain from upwind sources

1 Monitor: Near the predominantly downwind edge of the city limits

1 Monitor: 10–20 miles from the city limits in the predominantly downwind direction

1 Monitor: 20+ miles from the city limits in the predominantly downwind direction

1 Monitor: 10–30 miles in the second most prominant downwind direction

2. *NMOC Monitors (at Least Two Sites).* Ambient NMOC data are needed to estimate the NMOC/NO_x ratio, as described in Reference 5. This ratio is the second of two pieces of information needed to establish a starting point on an EKMA O_3 isopleth diagram. NMOC should be sampled at at least two monitoring sites. (In certain cases, subject to review and approval of U.S. EPA Regional Offices, one NMOC monitor would be acceptable.) These sites should be located so as to

characterize maximum O_3 forming potential in an MSA. This is best done by neighborhood scale monitoring sites (as described in Reference 12) located in areas with highest emission density of VOC and NO_x emissions. As described in Reference 13, reviews of existing NMOC/NO_x ratio data suggest day-to-day variability in the ratios of individual sites, as well as differences between sites on individual days. Because it is desirable to utilize as representative a ratio as possible as input to the model, sampling at at least two sites is recommended. Samples should be taken continuously between 6–9 a.m. LCT and analyzed within one week of collection. Samples should be taken on weekdays for at least a 3-month period during the summer or during the 3-month period of expected peak O_3 concentrations. Because modeling will consider more than 1 year of O_3 data, State/local agencies are urged to sample and analyze NMOC for several years. Since a major purpose of collecting NMOC data is to estimate NMOC/NO_x ratios, NMOC sampling sites must be collocated with NO_x monitors.

NMOC samples may be analyzed by Gas Chromatograph (GC) and summing the species concentrations up to and including C_{12} species, or by the Cryogenic Preconcentration/Direct Flame Ionization Detection (PDFID) method, described in Reference 14. Results obtained with PDFID agree closely with those obtained with GC sum-of-species (Reference 15). Data obtained with other analytical techniques are acceptable only if they can be shown to agree closely with results obtained with the GC sum-of-species or PDFID methods (Reference 16).

3. *NO_x Monitors (at Least Two Sites).* Like NMOC data, ambient NO_x data are needed to estimate NMOC/NO_x ratios, as described in Reference 5. As such, NO_x monitors must be located at NMOC sampling sites. Appropriate siting considerations have been described previously. NO_x should be sampled and analyzed continuously, using instruments operated in accordance with specifications outlined in Reference 11. Because NO_x concentrations are lower than NMOC levels, the NMOC/NO_x ratio is more sensitive to small differences in measured NO_x levels than is the case for NMOC. Thus, it is essential that NO_x data collected for use with EKMA be subject to rigorous quality assurance procedures. Audit checks are recommended (at continuously operated sites) within 30 days prior to start-up of NMOC sampling programs. Audits should cover nitrogen dioxide (NO_2) and nitric oxide (NO), as well as NO_x. Appropriate corrective actions should be taken as soon as possible.

4. *CO Monitor (at Least One Site).* Ambient CO data collected during the ozone season is needed, because presence of CO may affect ozone formation, particularly after VOC emissions have been drastically reduced. The CO data input to the model must be representative of a neighborhood scale (Reference 12). It is preferable that the CO monitor be located near one of the NMOC and NO_x sampling sites.

C. Meteorological Data

1. *Upper Air and Surface Temperature and Pressure Data.* The EKMA model requires estimates of 8 a.m. LCT surface mixing layer height, as well as the time of occurrence and depth of the daily maximum surface mixing layer. Mixing heights can be estimated using National Weather Service rawinsonde data (if available), together with surface temperature and pressure data. Surface temperature and pressure data should be collected at at least two properly exposed sites. The first of these should be influenced by urban heat island effects, characteristic of locations having highest densities of VOC and NO_x emissions. The second should be at the rawinsonde site. Appropriate instrumentation and further siting considerations are described in Reference 17. Procedures for estimating mixing heights are described in Reference 5. If rawinsonde data are not available, 8 a.m. and maximum afternoon mixing heights can be estimated using Reference 18.

2. *Surface Wind Data.* Surface wind data are needed to assure that an underlying assumption in EKMA is correct. That is, wind data are used to establish that a monitor observing a daily maximum O_3 concentration is indeed down-wind from the modeled city and/or is likely to be impacted by the city's emissions. This determination is made using surface wind data to compute resultant wind velocities during certain times of day (Reference 5). As described in Reference 5, resultant wind velocity is one of several factors used in establishing suitability of a particular day for modeling with EKMA and culpability of upwind MSA's for the observed high ozone on the day in question.

In order for wind data to be suitable for use as described above, it should be monitored and recorded continuously at at least two properly exposed sites not subject to microscale influences. Criteria for acceptable surface wind measurements are contained in Reference 17. Most appropriate locations for surface wind monitors may vary from case to case. However, generally, one should be at the rawinsonde site (or local airport), and a second should be in the predominantly downwind direction near the site of expected highest ozone.

V. Summary

The following data bases are recommended for regulatory applications of EKMA. All data should be carefuly quality assured.

A. Emissions Data (Section IV.A).

- Seasonally adjusted hourly emission rates of VOC, NO_x, and CO.
- Emissions for the entire MSA, spatially resolved on a county basis, will usually suffice.
- Emissions from sources with effective stack heights greater than 250m should be identified.
- Organic species identified by EPA in previous **Federal Register** notices as "unreactive" should not be included in the inventory.

B. Air Quality Data (Section IV.B).

- At least five continuously operated reference or equivalent ozone monitors.
- At least two NMOC sampling sites, with samples analyzed using GC sum-of-species or the PDFID technique.
- At least two continuously operated reference or equivalent NO_x monitors so that NO_x, NO, and NO_2 are measured or estimated at each NMOC sampling site.
- At least one neighborhood scale reference or equivalent CO monitor located as near as possible to one of the NMOC and NO_x sampling sites.

C. Meteorological Data (Section IV.C).

- At least two surface temperature monitoring sites.
- At least two surface pressure monitoring sites.
- At least two sites with continuously measured and recorded surface wind velocities.

VI. References Cited

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2. Ames, J.; T.C. Meyer; L.E. Reid; D. Whitney; S.H. Golding; S.R. Hayes; and S.D. Reynolds, *SAI Airshed Model Operations Manuals,* NTIS Publication Numbers PB85–292567 and PB85–191568, 1984.

3. U.S. EPA, *Guidelines For Applying The Airshed Model To Urban Areas,* NTIS Publication Number PB81–200529, 1980.

4. In Preparation. This will be similar to *User's Manual For OZIPM2,* EPA–450/4–84–024.

5. In Preparation. This will be an updated version of *Guideline For Use Of City-specific EKMA In Preparing Ozone SIPs*, EPA–450/4–80–027, to reflect post-1987 policy concerning use of EKMA with the CB4 or CALL mechanism.

6. In Preparation. This will be a memo describing reasons for selecting the chosen mechanism.

7. In Preparation. A memo with an attached analysis in which default recommendations are derived.

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13. Baugues, K., *A Review Of NMOC, NO_x And NMOC/NO_x Ratios Measured in 1984 And 1985*, EPA–450/4–86–015, September 1986.

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15. Richter, H.G.; F.F. McElroy; and V.L. Thompson, "Measurement Of Ambient NMOC Concentrations In 22 Cities During 1984," *Paper 85–22.7*, presented at 78th Annual APCA Meeting, Detroit, Michigan, June 1985.

16. Rhoads, R.G., Memorandum to U.S. EPA Regional Office Air, Environmental Services, and Policy and Management Division Directors, Subject: "Discontinuance of Funding for State Operation of NMOC Continuous Analyzers," March 10, 1986.

17. U.S. EPA, OAR, OAQPS, *On-Site Meteorological Program Guidance for Regulatory Model Applications*, (Draft), December 1986.

18. Holzworth, G.C., *Mixing Heights, Wind Speeds And Potential For Urban Air Pollution Throughout The Contiguous United States*, AP–101, U.S. EPA, Research Triangle Park, North Carolina, January 1972.

Appendix J—Other Measures for Improving Existing Programs

This appendix lists a number of measures that have been identified which will improve existing VOC control program effectiveness. In many cases, these are continuations and improvements to existing programs being carried out by EPA and States.

a. Monitor and Correct Problems in Inspection/Maintenance Programs

The EPA audits of inspection/maintenance programs over the past 3 years as part of the National Air Audit System have identified both considerable accomplishments by State and local agencies in establishing and operating I/M programs successfully, and a variety of operating problems. The operating problems fall into the categories of improper testing, incomplete enforcement of the requirement to be tested on schedule, and poor repair effectiveness for vehicles which fail the test. The latter manifested by high repair waivers or small emission reductions from vehicles not waived. Additional emission reductions which will contribute towards ozone and carbon monoxide attainment are possible from correction of these operating problems. In some I/M programs the losses in potential emission reductions are small, but in others they are substantial.

The EPA will take action on the operating problems in a particular I/M program whenever it appears that the combined losses due to those operating problems are so large that the program is not achieving the minimum emission reductions that were originally required for SIP approval. These reductions (25 percent of passenger car exhaust hydrocarbon and 35 percent of passenger car carbon monoxide) were established by a series of EPA policy memos beginning in 1978 based on the legislative history of Clean Air Act section 172(b)(11)(B).

The EPA has already taken action on certain I/M programs, and further actions will follow the same course. In such actions, EPA will inform the affected State that its operating problems have caused the I/M program to fall short of the required reductions and will request expeditious submittal of a corrective plan for the I/M program. The corrective plan shall provide a schedule of commitments to take specific measures of the State's own choosing to address the operating problems identified. The corrective plan would not have to be a formal SIP revision, but if a State did not submit an acceptable plan EPA would make a formal call for a SIP revision so as to begin an appropriate sanction process. Failure to provide such a corrective revision ultimately would result in a finding of SIP inadequacy and, where appropriate, a finding of failure to make reasonable efforts to submit an adequate SIP revision or a finding of SIP non-implementation. If a State did submit a corrective plan, but the State's corrective actions were not successful within a reasonable period, EPA would make a formal SIP call for specific program changes that, while perhaps more difficult to achieve, would have a higher likelihood of success than those tried by the State.

Many I/M programs were originally designed to provide more emissions reductions that the minimum required for SIP approval. Such programs might experience moderate or even large operating problems without affecting emission reductions to the point of becoming subject to the process just described. The EPA will continue to encourage and support the States' efforts to reduce operating problems in such programs, but will not request corrective plans or formal SIP revisions.

Elsewhere in this notice, new requirements relating to the improvement, or "enhancement," of I/M programs in post-1987 nonattainment areas are proposed. These requirements include a periodic assessment of program achievements which will supersede the process described above once a State has submitted and received approval for its improved I/M program.

b. Improve the Skills of Implementing Personnel

Due to the complexity of VOC control systems, EPA, State and local agencies must have staff capable of making determinations regarding such matters as compliance and application of LAER. The EPA intends to organize a workgroup comprised of representatives of State and local air pollution control agencies to meet periodically to assess which VOC compliance issues need special attention and to determine the best way to address each one. This would lead to new programs to increase the training of staff and to disseminate new guidance on such diverse topics as how to review plant records, what reporting is useful, and how to perform capture efficiency calculations.

In addition to upgrading the VOC training program, EPA has committed to use the VOC Reasonably Available Control Technology (RACT) Clearinghouse to disseminate and solicit information pertinent to the post-1987 ozone policy. To the extent practicable, EPA will use the Clearinghouse Newsletter or other appropriate documents to publish summaries of relevant meetings, policy and guidance memoranda issued from EPA's Office of Air Quality Planning and Standards, lists of ongoing VOC projects within EPA and the States, updates on the

implementation of VOC control programs in local areas, and information on State RACT determinations for sources not covered by EPA CTG's. EPA is considering requiring State and local participation in the Clearinghouse as part of the 1988 grant negotiations so that the Agency can disseminate this information more widely.

c. Enhance Federal and State Stationary Source Compliance Programs

The complexity of VOC regulations and the noncompliance status of many sources suggest the need for a more intense effort to ensure that sources understand and comply with the applicable rules. The EPA intends to improve the current compliance programs by issuing new guidance on how State and local agencies should focus their compliance efforts.

First, EPA will call upon State and local agencies to join EPA in a focused effort to get "significant violators" to comply with existing VOC rules. This group consists of sources subject to NSPS and "Class A" sources (sources emitting more than 100 tons per year, with or without controls). Beyond conducting its own program, the Agency will identify such violators for State and local agencies and monitor the progress that those agencies make toward achieving timely compliance.

Second, EPA will expand its overview of and technical support for State and local enforcement activity. The EPA expects to increase the number of Class A nonattainment area sources for which the Agency performs an overview of State and local inspections and increase its review of State and local agency files on those sources. The EPA expects that these program improvements would result in greater consistency in the States' application of existing VOC rules and greater emission reductions.

Third, EPA will call upon enforcing agencies to conduct annual, rather than the current biennial, inspections of nonattainment area sources with the potential to emit more than 100 tons per year without controls but less if controlled ("Class A2" sources).

Finally, EPA will work with enforcing agencies to assess the potential emission reductions that could be achieved by improving compliance rates of sources with potential uncontrolled emissions less than 100 tons per year ("Class B" sources). The EPA will be working with these agencies to develop innovative approaches to ensuring compliance of small sources (e.g., compliance assessment without requiring resource-intensive inspections at each source).

The EPA issued a memorandum entitled Small VOC Source Compliance Strategy on July 6, 1987. This program scheduled for implementation in FY 1988 provides a process for identifying VOC categories that are dominated by small but important contributor to ozone nonattainment. This nontraditional compliance approach consists of three components, which are (1) compliance promotion, (2) selected inspections, and (3) enforcement.

In general, compliance promotion consists of State and local agencies (along with EPA Regional Offices) implementing a campaign to ensure that small sources are aware of the problem and understand the VOC air quality requirements. To accomplish this, it will be necessary to identify small sources and then inform these sources of air quality requirements including needed control equipment or process changes.

The second component of the small source strategy is a selected inspection program that will provide State and local agencies and EPA with compliance information, and will establish a minimum enforcement presence. Resource limitations will not allow inspection of all small VOC sources even over a longer period of time. However, by using statistical sampling, a compliance data base can be developed by inspecting a relatively low number of small sources from selected small VOC source categories. Conducting selected inspections (as randomly as possible) of small sources in a VOC source category will provide an adequate estimate of the compliance rate for all of the small sources in that category.

The third component of the small VOC source strategy is to bring small violators back into compliance through enforcement follow up. One way of doing this is to give high media exposures to enforcement actions against selected violators. This should increase enforcement pressure and credibility. Another useful tool is an administrative fines program which would have the advantages of speed, flexibility, and certainty with the ability to set penalties appropriate to the nature of the violation.

d. Implement or Improve Permit Fee Program

Section 110(a)(2)(K) requires the SIP's to contain a requirement that the owner or operator of each major stationary source pay to the permitting authority as a condition of any permit refunded under the Act "a fee sufficient to cover" the reasonable costs of the permitting process and the implementation and enforcement of the permit. The EPA's 1981 Permit Fee Guideline (EPA–450/2–81–003) describes this requirement.

The EPA reviews of State and local permit fee programs have identified both considerable accomplishments in establishing and operating permit fee programs and major deficiencies. The EPA has found, for example, that while some agencies fully recover the cost of implementing permit programs, others still lack either the State authority or enforceable provisions in the SIP's for permit fees. Other agencies have the authority but have failed to implement it, and still others collect some fees but in such limited amounts that they fail to cover the full cost of issuing and implementing permits. Deficient programs not only deny to the State an important source of revenue in meeting their responsibilities under the Act but also impose inequities on adjacent States and hinder their efforts to develop adequate fee programs and comply with EPA guidance. States that have permit fee systems in their SIP's should assess the adequacy of those programs in terms of fees collected to assure that they are adequate to recover the full cost associated with reviewing, implementing, and enforcing permit conditions (except for court costs). States that do not have a permit fee system are encouraged to establish and operate such a program consistent with EPA's Permit Fee Guideline.

e. Upgrade Ambient Monitoring Networks

State and local agencies and EPA use air quality monitors to measure the ambient concentrations of ozone, nonmethane organic compounds (NMOC), and nitrogen oxides. These data are then used to determine attainment designations, to model ozone control strategies to determine their adequacy in reducing ozone concentrations, and to establish trends on how such concentrations change over thse. The EPA has established revised criteria that describe what constitutes an acceptable monitoring network for these purposes. The Agency intends to require some, but not all, States to implement a program that would require certain nonattainment areas to increase the number of NMOC monitors and the frequency of NMOC monitoring. The program would also require certain areas to increase the number of operational ozone monitors and, in some cases, to change the placement of those monitors.

Appendix K—Determining Attainment Dates

Long-Term Areas Subject to 3 Percent Reduction Requirement

The first step in projecting attainment dates is to determine the attainment level inventory. This is the inventory level to which the baseline emissions must be reduced for attainment to occur.

If using EKMA, multiply the baseline inventory, line 1(a) in the worksheet, by the modeled percent reduction target, line 1(b). The product is the amount by which the baseline emissions must be reduced to produce attainment. Enter in line 1(c). Subtract line 1(c) from the baseline, line 1(a). Enter the result as the attainment level inventory in line 1(d).

If using the Urban Airshed Model, typically one or more control strategies will be tested which produce attainment. Subtract the emissions reductions [115] associated with the preferred strategy from the baseline inventory. Enter the result as the attainment level inventory in line 1(d).

Next, the baseline inventory must be adjusted by subtracting out the requirements of EPA's pre-1987 guidance and any other measures approved into the SIP before today's action. But first, these measures must be adjusted for effectiveness. For each measure which has not been evaluated for effectiveness, multiply the expected reductions by 80 percent. For measures which have been evaluated, multiply the reductions by the effectiveness level determined by the evaluation. Total the reductions, enter in line 2(a), and subtract this total from the baseline inventory, line 1(a). Enter as the adjusted baseline inventory in line 2(b).

Now, the adjusted baseline is projected forward, first to 1992, then in 3-year increments (1995, 1998, 2001, etc.). This projection considers growth in emissions for any source affected by federally-implemented measures (FMVCP, RVP, onboard, etc.) and *only* the reductions from the federally-implemented measures and those local measures prescribed by EPA's pre-1987 guidance or approved into the SIP before the date this policy was proposed. Only growth in sources affect by federally-implemented measures is counted, since this is allowed to be offset as long as reductions occur from Federal measures. During this period, the local strategy must offset all other growth. Enter the projections starting in line 3(a) and continuing through 3(h) if necessary. The local strategy must continue to achieve a net 3 percent reduction per year on average, starting in 1988, offsetting all growth that occurs after the federally-implemented measures cease to provide net reductions (considering growth in sources affected federally-implemented measures). Although projections after this "low" point are not used to determine the attainment date, they are useful to show total the amount of growth to be offset by local control measures.

As discussed in the Policy Statement (Section IV.B.), States should provide for expeditious implementation of measures and emission reductions. However, as a practical matter, 1992 may be the earliest opportunity to assess compliance with the 3 percent annual reduction requirement. Therefore, for calculating the attainment date, the first "rate of progress" projection is made for 1992. Enter 15 percent of the adjusted baseline inventory in line 4(a). This is the amount of reductions required locally beyond the pre-1987 requirements, line 2(a). Subtract the 1992 baseline projection, or line 3(a), from the adjusted baseline, or line 2(b). If negative, enter zero. Enter in line 4(b). This is the net amount of reductions from federally-implemented measures, considering growth in sources affected by the federally-implemented measures. Add lines 4(a) and 4(b). Enter the sum in line 4(c). This is the net amount of reductions from all measures between the baseline and 1992. Subtract line 4(c) from the adjusted baseline. Enter the result in 4(d). This is the projected 1992 emissions level. Compare the result to the attainment level inventory. If attainment has not been reached, continue until one of the projected levels is equal to or below the attainment level.

Subsequent projections are made on the 3-year intervals in a similar fashion. Each 3-year interval adds another 9 percent net reduction to the local strategy (i.e., 24 percent in 1995, 33 percent in 1998, 42 percent in 2001, etc.).

If the attainment date appears to fall on one of the interim years in the 3-year projection period, baseline projections should be made for both of the interim years. Then, using the appropriate percentage values (24 percent in 1995, 33 percent in 1988, etc.) and following the procedure outline in lines 5(a) through 5(d), determine the projected "rate of progress." For each interim year, add 3 percent each year to the initial projection level (i.e., 24 percent in 1995, 27 percent in 1996, 30 percent in 1997, etc.). Add the local reduction to any incremental reductions from federally-implemented measures between this year and the previous year (use zero, if no reductions occurred) and add any reductions from federally-implemented measures in previous projection periods since the baseline. Total the reductions from the local and Federal measures. Subtract the total from the adjusted baseline. This is the projected inventory. Attainment is projected in the year where the projected inventory is equal to or below the attainment level inventory.

Short-Term Areas

Areas able to demonstrate attainment within 3 years after EPA approval of the SIP, or 4 years after the SIP due date, are not subject to the percent reduction requirement. For purposes of the short-term attainment demonstration, and to avoid the 3 percent annual requirement, these areas can only count reductions that would occur from federally-implemented measures, the pre-1987 SIP requirements, and any measures adopted (and EPA-approved) before today's proposal. Procedurally, this is the same as the baseline projection calculation (step 3) used by long-term areas except that the short-term area may consider all emissions growth (either positive or negative) in the emission projections. The attainment level inventory is determined in the same way as for long-term areas (step 1). However, it is not necessary to adjust the baseline inventory to remove the pre-1987 required reductions (step 2). As an example, assume a prospective short-term area has an unadjusted baseline inventory of 100,000 tons/year, and an attainment inventory of 85,000 tons/year. Projecting the baseline gives a 1992 inventory of 86,000 and a 1995 inventory of 84,000 tons/year. If the 1994 projections were at or below 85,000 tons/year, the area could successfully demonstrate attainment in the short term. However, as described in section IV.B. of the policy, the area could not supplement the baseline projections with additional local reductions in attempting to achieve the attainment level inventory in 1994, without being subject to the 3 percent annual reduction requirement beginning in 1988.

[115] These emission reductions must account for appropriate levels of effectiveness of measures contained in the strategy.

ATTAINMENT DATE WORKSHEET

	(Example)
1. (a) Unadjusted baseline (tpy)	103,000
(b) Percent reduction target (EKMA)	55
(c) Reductions required to attain. Multiply line 1(a) by line 1(b)	56,650
(d) Attainment level inventory. Subtract line 1(c) from line 1(a)	46,350
2. (a) Pre-1987 required measures (after adjustment for effectiveness)	3,000
(b) Adjusted baseline. Subtract line 2(a) from line 1(a)	100,000
3. Adjusted baseline projections. (Include effect of federally-implemented measures plus any growth in sources affected by federally-implemented measures.)	
(a) 1992	86,000
(b) 1995	83,000
(c) 1998	84,000
(d) 2001	86,000
(e) 2004	89,000
(f) 2007	92,000
(g) 2010	96,000
Steps 4 through 7 below apply only to long-term areas subject to the percent reduction requirement	
4. 1992 rate of progress projection:	
(a) Enter 15 percent of line 2(b)	15,000
(b) Subtract line 3(a) from line 2(b) (if negative, enter zero)	14,000
(c) Add lines 4(a) and 4(b)	29,000
(d) Subtract line 4(c) from line 2(b)	71,000
5. 1995 rate of progress projection:	
(a) Enter 24 percent of line 2(b)	24,000
(b) Subtract line 3(b) from line 3(a) (if negative, use zero). Add line 4(b)	17,000
(c) Add lines 5(a) and 5(b)	41,000
(d) Subtract line 5(c) from line 2(b)	59,000
6. 1998 rate of progress projection:	
(a) Enter 33 percent of line 2(b)	33,000
(b) Subtract line 3(c) from line 3(b).(If negative, use zero). Add line 5(b)	17,000
(c) Add lines 6(a) and 6(b)	50,000
(d) Subtract line 6(c) from line 2(b)	50,000
If line 5(d) is less than or equal to line 1(c), stop. Otherwise, go on	
7. Additional projections (2001, etc.):	
(a) Repeat step 5, adding 9 percent to line 5(a) for each successive projection (i.e., 42 percent for 2001, 51 percent for 2004, etc.).	
(b) Stop when projections are less than or equal to line 1(c). Attainment is expected to occur on or before the date of this projection.	

Appendix L—Determining "Rate of Progress" for NO_x—An Example

The post-1987 policy allows any area to adopt an NO_x-based control strategy, as long as the required VOC controls are also adopted and implemented. (The EPA expects most areas adopting NO_x strategies will adopt a combination VOC/NO_x strategy.) Long-term nonattainment areas which are subject to the 3 percent VOC annual reduction requirement and which adopt NO_x control strategies must determine an annual NO_x rate of reduction. This rate is required to result in attainment as expeditiously as a VOC-only strategy. The procedure for determining this rate is contained in Section IV.D, "Role of Nitrogen Oxides (NO_x)" in the Policy Statement. This Appendix describes the application of this procedure to the area in the Appendix K example.

Example

Assume that a long-term (beyond 1994) nonattainment area is submitting a post-1987 SIP with a combination VOC/NO_x control strategy. If the area were adopting only VOC control measures, the area would be subject to the annual 3 percent VOC reduction requirement. Since the area is adopting a combination VOC/NO_x strategy, an NO_x annual rate of reduction must be determined using the four-step procedure described in section IV.D of the policy.

Step 1—The area performs a modeling analysis to determine the attainment date which would result from a VOC-only control strategy achieving at least 3 percent per year. The attainment date is determined using Appendix K procedures. In the modeling analysis, the area can make assumptions regarding projected NO_x emission changes which are expected to occur if the State implemented no NO_x measures. (These could include the FMVCP, NSPS, growth or decline in NO_x-emitting sources, etc.) The Appendix K example area would need a 55 percent VOC reduction to attain and attainment would occur in the year 2000.

Step 2—This step requires a second modeling analysis to determine the VOC reduction target necessary to attain, based on the addition of NO_x reductions projected to occur from the locally-adopted NO_x control strategy. For this example, assume that the local NO_x measures are expected to achieve a 30 percent emission reduction. This reduction would be used as input to the model. Assume that, with this information, the analysis shows that a 40 percent VOC reduction will result in attainment.

Step 3—This step is where the NO_x annual reduction requirement is determined. The policy requires that the VOC/NO_x strategy achieve attainment as early as a VOC-only strategy. Therefore, the locally-adopted NO_x reduction is simply divided by the number of years required to attain (starting from the date of the SIP call) using only a VOC-based strategy. Hence, in the example, the local NO_x reductions (30 percent) are divided by

the number of years from the SIP call (1988) to attainment (2000), or 13 years. Note that the starting and ending years are included in the calculation, since the percent reduction applies to those years as well as to the years in between. Hence, the NO_x reduction requirement is 30 divided by 13, or 2.3 percent per year, rounded to the nearest tenth of a percentage.

Step 4—In this step, the alternate (lower) VOC annual reduction requirement is determined, since less overall VOC reduction is needed to attain, due to the addition of legally adopted NO_x control measures. For this step, federally implemented and pre-1987 requirements are excluded. In the example in Appendix K these measures account for a maximum of 17,000 tons/year reduction (17 percent) by 1995. (It does not matter that the reduction diminishes after 1995, since the local VOC strategy must offset any growth from 1995 on, in addition to achieving the required reduction rate.) Therefore, the locally-adopted VOC strategy must achieve the remainder of the overall reduction required to attain or 40 percent minus 17 percent, or 23 percent. The new VOC reduction requirement then becomes 23 divided by 13, or 1.8 percent per year, rounding to the nearest tenth of a percentage.

For purposes of determining compliance with the VOC and NO_x reduction requirements, EPA requires that, initially, by the 5th year from the SIP call (and subsequently at 3-year intervals) the State achieve the required reductions, to the nearest higher percentage point. In this example, then, the reductions which the State must show by 1992 would be found by multiplying 2.3 percent for NO_x and 1.8 percent for VOC each by 5. Thus, the reduction required by 1992 is 12 percent for NO_x (rounded up from 11.5) and, for VOC it is 9 percent (no rounding necessary). Similarly, the 1995 reduction requirements are 2.3 times 3, or 7 percent for NO_x (rounded up from 6.9), and 1.8 times 3, or 6 percent for VOC (rounded up from 5.4). By 1998, then, the cumulative reduction requirement would be 26 percent for NO_x (12+7+7) and 21 percent for VOC (9+6+6). The balance of the reduction needed to attain is then due by the end of the projected attainment year (2000), or 4 percent for NO_x and 2 percent for VOC.

Appendix M—Timing of Key Policy Requirements

By Category:

Event	Time allowed	Due date
1. Draft Emission Inventory	1 year	1 yr after SIP call.
2. Maximize Effectiveness of Existing Programs.	Up to 2 years	2 yrs after SIP call (submitted with initial SIP).
3. Pre-1987 Requirements (including adopted measures approved by EPA).	Up to 4 years (unless earlier implementation would advance attainment).	Up to 4 yrs after SIP call.
4. Post-1987 Requirements:		
a. Enhanced I/M (if applicable)	Up to 6 years (unless earlier implementation would advance attainment) (>.16 ozone or 17 CO earlier).	Up to 6 yrs after SIP call.
b. 3 Percent Annual Reduction Requirement	Starting year of SIP call ending year of attainment.	Compliance checked initially 5 yrs after SIP call, then every 3 yrs until attainment.
c. New CTG.'s	Min. 1 year to almost 2 years	Jan. after publication of CTG (if issued by previous Jan.).
d. Initial SIP:		
● Isolated Rural Areas Lacking AQ Data	Up to 2 years for CTG's I, II; 1 additional year for air quality analysis and measures, if required.	No later than 3 yrs after SIP call, except minimum RACT due in 2 yrs.
● Areas Needing Long-Term Measures	Up to 5 years to complete adoption	No later than 5 yrs after SIP call.
(except 2 yr SIP must include demonstration of attainment, identify long-term measures, fully adopt other measures)		
● All other areas	Up to 2 years	No later than 2 yrs after SIP call.
e. Revised SIP's and Attainment Demonstrations.	Approx. 6 years	Initially 7 yrs after SIP call, then every 6 yrs.
f. Governor's Commitment to Develop SIP	3 months	3 months after SIP call.
g. State/EPA Review of SIP Development	6 months	6 months after SIP call.
h. Implementation of CO Hotspot Measures	Up to 6 years	No later than 6 yrs after SIP call.
i. Implementation of Post-1987 RACT	Up to 6 years	No later than 6 yrs after SIP call.

By Due Date:

Due Date (after SIP call)	Event
3 months	Governor's commitment.
6 months	State/EPA review of SIP development.
1 year	Draft emission inventory.

Due Date (after SIP call)	Event
2 years	Initial SIP (except areas needing long-term measures; see above).
	Maximize effectiveness of existing program.
3 years	Air quality data and additional measures, if applicable—isolated rural areas lacking data.
4 years	Implementation of pre-1987 requirements (see above).
5 years	Adoption of long-term measures (SIP submittal).
	Compliance with 15 percent reduction requirement (long-term areas).
6 years	Implementation of enhanced I/M (see above).
	Implementation of CO hotspot measures.
	Implementation of post-1987 RACT.
7 years	Revised SIP and attainment demonstration.

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