ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[FRL–6131–6]

RIN 2060–ZA02

Promulgation of Federal Implementation Plan for Arizona—Phoenix PM–10 Moderate Area; Disapproval of State Implementation Plan for Arizona—Phoenix PM–10 Moderate Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Under the authority of section 110(c)(1) of the Clean Air Act (CAA or ''the Act''), EPA is today promulgating a federal implementation plan (FIP) to address the moderate area PM–10 requirements for the Phoenix PM–10 nonattainment area. Specifically, for both the annual and 24-hour PM–10 standards, EPA is promulgating a demonstration that reasonably available control measures (RACM) will be implemented as soon as possible, a demonstration that it is impracticable for the area to attain the standards by the statutory attainment deadline and a demonstration that reasonable further progress (RFP) is being met.

As part of the FIP, EPA is promulgating a fugitive dust rule to control PM–10 emissions from vacant lots, unpaved parking lots and unpaved roads, and is also promulgating an enforceable commitment to ensure that RACM for agricultural sources will be proposed by September 1999, finalized by April 2000 and implemented by June 2000.

In addition, EPA is today finalizing its disapproval of the Arizona moderate area plan's RACM, RFP and impracticability, demonstrations because those demonstrations do not adequately address the Act's moderate area PM–10 requirements.

EPA recently established a new standard for PM–2.5 and also revised the PM–10 standards; however, today's action does not address those standards.

EFFECTIVE DATES: The FIP and SIP actions in this document are effective on September 2, 1998.

ADDRESSES: A copy of the docket no. A–09–98, containing material relevant to EPA's proposed and final actions, is available for review at: EPA Region 9, Air Division, 75 Hawthorne Street, San Francisco, California 94105. Interested persons may make an appointment with Eleanor Kaplan (415) 744–1159 to inspect the docket at EPA's San Francisco office on weekdays between 9 a.m. and 4 p.m.

A copy of the docket no. A–09–98 is also available to review at the Arizona Department of Environmental Quality, Library, 3033 N. Central Avenue, Phoenix, Arizona 85012, (602) 207–2217, and at the EPA Air Docket Section, Waterside Mall, Room M–1500, 401 M Street, S.W., Washington, D.C. 20460, (202) 260–7549.

FOR FURTHER INFORMATION CONTACT: For questions and issues regarding the final measure for agricultural fields and aprons contact John Ungvarsky (415) 744–1286; for questions and issues regarding the final rule for unpaved parking lots, unpaved roads and vacant lots contact Karen Irwin (415) 744–1903; and for other general FIP and SIP questions and issues contact Doris Lo (415) 744–1287.

SUPPLEMENTARY INFORMATION:

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I. Executive Summary

A. Background

The Phoenix area violates both the annual and 24-hour national air quality standards for particulate matter with diameters of 10 microns or less (PM–10). Particulate matter affects the respiratory system and can cause damage to lung tissue and premature death. The elderly, children, and people with chronic lung disease, influenza, or asthma are especially sensitive to high levels of particulate matter. EPA recently established a new standard for particulate matter with diameters of 2.5 microns or less and revised the PM–10 standards. However, EPA also retained the pre-existing PM–10 standards for a limited amount of time. Today's action only addresses those pre-existing PM–10 standards.

The primary cause of the PM–10 problem in the Phoenix area is dust on paved roads kicked up by vehicle traffic, and windblown dust from construction sites, earth moving operations, unpaved parking lots and roads, disturbed vacant lots, agricultural fields and aprons, and other disturbed areas.

When an area violates an air quality standard, the Clean Air Act (CAA) requires that the area be designated as nonattainment for that pollutant. Phoenix was originally designated and classified as a moderate nonattainment area for particulate matter, and Arizona was required to develop a plan that put into place a basic set of control measures. These measures did not adequately control the particulate pollution problem. When the area failed to attain the standards in 1994 it was reclassified as a serious nonattainment area, and the State is now required to develop a plan with more comprehensive control measures.

Despite the fact that the State is now working on its serious area plan, EPA is under court order, as a result of a lawsuit by the Arizona Center for Law in the Public Interest (ACLPI), to develop a moderate area federal implementation plan (FIP) for the Maricopa area. EPA is required to prepare this FIP because the State does not have an approved moderate area plan. Under the court order, EPA was required to issue the FIP by July 18, 1998.

In its FIP proposal (63 FR 15920; April 1, 1998), EPA determined that not all the basic controls on sources contributing to violations of the particulate standards were in place. While the State had implemented a

number of measures, including controls on construction and earth moving operations, there remained a need for additional emissions reductions. Having considered its authority and resource constraints, EPA proposed two measures in that rulemaking for the control of dust from unpaved roads, parking lots, and vacant lots and agricultural fields and aprons. Specifically, EPA proposed a fugitive dust rule and an enforceable commitment in regulatory form to implement control measures for agricultural PM–10 sources by June 2000. These measures will contribute to the eventual attainment of both the annual and 24-hour PM–10 standards. EPA received comments from the public on the FIP proposal and has made changes to the proposed FIP rule for fugitive dust sources that it is finalizing today.

The State now intends to submit its serious area particulate plan in December of 1998. If the plan includes control measures for the sources covered by the FIP and those measures are approved by EPA, the Agency will be able to withdraw the final FIP measures. EPA will continue working with the appropriate State and local agencies, as well as the agricultural community and the cities in the metropolitan area, to replace the FIP measures with State measures. EPA believes that clean air is likely to be achieved faster, and in greater harmony with local economic and community goals, if its role as a backstop is minimized by effective State and local actions. Because of the willingness of the State and local communities to identify and pursue solutions to their air quality problems, as evidenced by the Governor's Air Quality Strategies Task Force and the recently adopted Air Quality Measures Bill (SB 1427), EPA expects successful State and local action.

B. Public Involvement in the FIP Process

On April 16, 1998, EPA held a workshop and public hearing on its proposal in Phoenix. The workshop provided an opportunity for EPA to explain to the community why the Agency is imposing this FIP, what measures are included in the FIP, and who will potentially be impacted by the FIP. The workshop also provided the community the opportunity to ask questions of EPA, and to make suggestions with respect to its proposed action. Following the workshop, EPA took formal testimony at a public hearing on the FIP proposal. In addition to the hearing testimony, EPA received 18 comment letters on the proposed FIP.

The comments generally fell into two categories. Environmental and health organizations supported the dust rule, but commented that the FIP did not impose enough PM–10 controls for other source categories in the Phoenix PM–10 nonattainment area. On the other hand, several of the local jurisdictions and regulatory agencies commented that the FIP-imposed controls were too stringent. EPA evaluated all the comments, did additional fieldwork and technical analysis, and revised the FIP accordingly.

C. The Final FIP

In response to public comments, EPA revised the fugitive dust rule, but did not change the enforceable commitment for agriculture.

Fugitive Dust Rule

Although EPA has approved a Maricopa County rule (MCESD Rule 310) which requires controls for unpaved roads, unpaved parking lots and vacant lots, the County is not adequately enforcing its rule for these three sources due to lack of resources. Consequently, EPA promulgated a FIP rule for these sources. EPA's fugitive dust rule is intended to establish basic levels of control that are substantially equivalent to those established by Maricopa County Rule 310. The primary difference between the FIP rule and Rule 310 is the greater specificity and detail regarding which control measures are appropriate for which sources. For each source category, the FIP rule includes three to four control measure options and allows alternative control measures.

In order to effectively implement the FIP rule, EPA is providing additional inspection resources to the Maricopa County Environmental Services Department (MCESD) through a CAA section 105 grant. EPA will rely on these resources to assist the Agency in verifying compliance with the FIP rule. In order to remove the FIP requirement, MCESD will have to submit to EPA a credible implementation strategy for Rule 310, including the provision of its own additional inspection and enforcement resources that are not provided under an EPA grant. It is EPA's understanding that MCESD is trying to obtain these additional resources. EPA will continue working with the County to assist that effort so that the FIP rule can eventually be rescinded.

Until the FIP is rescinded, however, EPA intends to work cooperatively with MCESD to inform the regulated community of the FIP rule's requirements. EPA plans to provide compliance assistance through informational brochures, toll free numbers and internet access. These tools will help EPA disseminate as much information as possible to the public. As new information becomes available, including alternative control measures that are being developed by regulated parties to comply with the rule, EPA will collaboratively work with these regulated parties to provide information to the public.

EPA would like to clarify the Agency's position with respect to a major issue that was raised by several commenters on the proposed fugitive dust rule. These commenters believe that the FIP rule requires a more stringent level of control than Maricopa County Rule 310 and that, consequently, EPA is imposing an additional economic burden on local municipalities, and others impacted by the FIP rule. EPA believes that the FIP rule does not impose any additional compliance burden beyond that required by Rule 310. Because EPA will fully enforce the FIP rule, which has not occurred under Rule 310, regulated entities who have not been in compliance with existing requirements to date will need to spend the resources necessary to come into compliance. This is not an additional economic burden, but rather one that some members of the regulated community have deferred. However, should EPA receive new information in the future that indicates that the FIP controls are more stringent than those required by the Clean Air Act, the Agency will propose appropriate revisions to the FIP.

Enforceable Commitment for Agriculture

As mentioned above, EPA has approved Maricopa County Rule 310 which requires control of fugitive dust sources, including agricultural sources. However, MCESD is not ensuring adequate enforcement of the rule for agricultural fields and aprons. Therefore, EPA is promulgating an enforceable commitment in regulatory form for the FIP that requires EPA to propose controls on agricultural sources by September 1999 and implement these controls by June 2000. The enforceable commitment has not changed from the April 1, 1998 proposal. In discussions with key stakeholders, general agreement was reached that these controls will be in the form of best management practices. EPA believes that this approach will ensure successful dust control in Maricopa's unique environment. We have worked closely with the Phoenix

farming community to develop this commitment, and their comments on the proposal support it.

In order to remove the FIP requirements, the State will need to submit and receive approval of a SIP measure that replaces the enforceable commitment. In fact, the Arizona legislature has passed, and Governor Hull has signed, the legislative language needed to establish a state process to develop best management practices for control of PM–10. EPA expects to receive this legislative language as a SIP revision very shortly and will act on it expeditiously.

Tribal Issues

There are three Indian reservations located within the Phoenix nonattainment area. However, since this FIP is designed to fill a gap that exists in the State plan which does not apply to sources within Indian country, EPA has not included Indian reservations in this FIP. All three tribes have expressed an interest in developing air quality programs. EPA will develop the data, in cooperation with the tribes, that is needed to properly assess whether controls are required to attain the standards. EPA will ensure that controls are implemented either through EPA-approved tribal measures or, if necessary, federal measures.

Conclusion

EPA appreciates the comments that were made on the proposed FIP and will continue to work with the community as the Agency moves forward to implement the FIP measures. EPA will also continue to work with the community on the development of the State's serious area plan. EPA is hopeful that the local planning effort will result in an approvable SIP that will allow EPA to withdraw its FIP.

II. Background

A. SIP/FIP Background

Today's federal implementation plan (FIP) is the result of over six years of planning and litigation regarding the control of PM–10 emissions in the Phoenix area. On November 15, 1991, as required by the CAA, the State of Arizona submitted to EPA a moderate area PM–10 state implementation plan (SIP). EPA found that plan to be incomplete and, as a result, the State revised and resubmitted it on March 3, 1994. On April 10, 1995, EPA approved the revised plan which included reasonably available control measure (RACM) and reasonable further progress (RFP) demonstrations, and a demonstration that it was impracticable for the Phoenix area to attain the PM–10 national ambient air quality standards (NAAQS) by the statutory deadline of December 31, 1994.

On May 1, 1996, the Arizona Center for Law in the Public Interest (ACLPI) filed in the United States Court of Appeals for the Ninth Circuit a petition for review of EPA's April 10, 1995 approval of the State's PM–10 moderate area plan. On May 14, 1996, the Ninth Circuit vacated EPA's approval of the plan for failing to adequately address the moderate area PM–10 requirements. *Ober* v. *EPA*, 84 F.3d 304 (9th Cir. 1996). Specifically, the Ninth Circuit found that the State's plan failed to meet the CAA's requirements for attainment, RFP and RACM for the 24-hour PM–10 standard and that EPA had failed to provide a sufficient opportunity for public comment on the RFP and RACM demonstrations for the annual PM–10 standard.

As a result of the Ninth Circuit's ruling, EPA instructed the State of Arizona to submit by May 9, 1997 a plan addressing the Act's moderate area requirements for the 24-hour PM–10 standard at certain specified monitoring sites and to submit, by December 10, 1997, a full regional plan addressing those requirements for both the 24-hour and annual PM–10 standards.[1]

Arizona submitted its 24-hour plan[2] (known as the microscale plan) on May 9, 1997. On August 4, 1997, EPA approved the microscale plan in part and disapproved it in part. 62 FR 41856. The State has not yet submitted the full regional plan, but has indicated that it intends to do so in December 1998.

Because EPA was unable to fully approve the State's microscale plan, the Agency is required by a U.S. District Court order to promulgate a FIP by July 18, 1998 that addresses the CAA's moderate area requirements for RACM, RFP and attainment for both the 24-hour and annual standards. *Ober* v. *Browner*, CIV 94–1318 PHX PGR (D. Ariz.).[3]

B. Summary of SIP/FIP Proposal

On April 1, 1998, EPA proposed a FIP for the Phoenix PM–10 nonattainment area that was published in the **Federal Register** at 63 FR 15920. The proposed FIP included a demonstration that all RACM are being implemented, a demonstration that it is impracticable to attain the PM–10 standards with the implementation of all RACM and a demonstration that RFP in emissions reductions is being made.

As part of its proposed RACM demonstration, EPA proposed a fugitive dust rule to control PM–10 emissions from vacant lots, unpaved parking lots and unpaved roads, and an enforceable commitment to ensure that RACM for agricultural sources will be proposed by September 1999, finalized by April 2000 and implemented by June 2000. Further detail on the proposed rule and commitment is provided in connection with the discussion of EPA's final actions in section IV. below and in the proposed rulemaking at 63 FR 15920, 15935.

On April 1, 1998, EPA also withdrew a 1996 proposed action to restore its approval of portions of the State's moderate area SIP for the annual standard and proposed to disapprove the RACM and impracticability demonstrations in Arizona's moderate area plan because those demonstrations do not adequately address the Act's moderate area PM–10 requirements. Further discussion of the SIP actions is provided in section III. below and in the proposed rulemaking at 63 FR 15920, 15925.

EPA received 18 public comment letters from a wide range of parties including private citizens, state and local agencies, industry representatives, and environmentalists. EPA also held a public hearing on the proposed FIP in Phoenix at which 7 groups or individuals testified. Copies of the comment letters and the transcript of the public hearing can be found in the docket for this rulemaking.

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[1] As a result of the litigation and the reclassification of the Phoenix area as a serious PM–10 nonattainment area, both plans were also required to address the best available control measure (BACM), RFP and attainment requirements in the CAA for serious areas.

[2] *Plan for Attainment of the 24-Hour PM–10 Standard, Maricopa County PM–10 Nonattainment Area, Final.* ADEQ, May 1997.

[3] The Arizona Center for Law In the Public Interest (ACLPI), representing the plaintiffs in *Ober*, in a comment on the FIP proposal, contends that the proposed FIP does not contain contingency measures as required by section 172(c)(9) of the CAA. EPA disagrees. In today's final FIP, EPA is fulfilling an obligation under the consent decree in the district court *Ober* case that specifically requires the Agency to promulgate a federal plan for Phoenix that meets the moderate area RACM requirement in CAA section 189(a)(1)(C), RFP requirement in section 172(c)(2) or 189(c)(1), and attainment requirement in section 189(a)(1)(B) of the Clean Air Act. See paragraph 6 of the Modified Second Consent Decree. EPA's obligation under the *Ober* decree does not extend to the section 172(c)(9) contingency measures. The section 172(c)(9) contingency measure requirement is a separate and distinct statutory requirement and is not an integral part of RFP or attainment demonstrations under part D of the CAA. See, e.g., 57 FR 13498, 13543 (April 16, 1992) and 61 FR 51599, 51607 (October 6, 1996). See also footnote 1 in EPA's orginal proposed approval of the State moderate area PM–10 plan for the Phoenix area, 59 FR 38402 (July 28, 1994).

III. Disapproval of Arizona's Moderate Area PM–10 Plan

In its proposed action for this rulemaking, EPA withdrew its earlier proposal at 61 FR 54972 (October 23, 1996) to restore the Agency's approval of Arizona's moderate area PM–10 plan for the Phoenix nonattainment area.[4] At the same time, EPA proposed to disapprove the RACM demonstration and the demonstration that attainment by the moderate area attainment deadline was impracticable in the State's moderate area plan. See 63 FR 15920, 15925–15926. EPA is today taking final action to disapprove that plan.

The CAA establishes specific consequences if EPA finds that a state has failed to meet certain requirements of the CAA. Of particular relevance here is CAA section 179(a)(1), the mandatory sanctions provision. Section 179(a) sets forth four findings that form the basis for application of a sanction, including disapproval by EPA of a State's submission based on its failure to meet one or more required CAA elements. EPA has issued a regulation, codified at 40 CFR 51.31, interpreting the application of sanctions under section 179 (a) and (b).

Generally, if EPA has not approved a revised SIP revision correcting the deficiency, within 18 months of the effective date of today's rulemaking, pursuant to CAA section 179(a) and 40 CFR 52.31, the offset sanction identified in CAA section 179(b) will be applied in the affected area. Similarly, if EPA has still not approved a SIP revision correcting the deficiency 6 months after the offset sanction is imposed, then the highway funding sanction will apply in the affected area, in accordance with 40 CFR 52.31.[5] In addition, CAA section 110(c)(1) provides that EPA must promulgate a FIP no later than 2 years after a finding under section 179(a) unless EPA takes final action to approve the revised plan correcting the deficiency within 2 years of EPA's findings.

There are, however, certain exceptions to the general rule for the application of sanctions described above. The reader is referred to 40 CFR 52.31(d) for the circumstances under which the application of sanctions may be stayed or deferred.

IV. Final FIP

A. RACM/RACT Demonstration

1. RACT and PM–10 Precursors

In its proposed rulemaking, EPA determined that the SIP already included reasonably available control technology (RACT) for major sources of PM–10 and that the FIP did not need to further address this requirement. See 63 FR 15920, 15927. No comments were received on this determination.

EPA also proposed to find, based on existing modeling, that major stationary sources of PM–10 precursors do not contribute significantly to PM–10 levels in the Maricopa area which exceed the PM–10 air quality standards, and therefore, RACT on these major sources is not required under CAA section 189(e). See 63 FR 15920, 15928. Under CAA section 189(e), the control requirements applicable to major stationary sources of PM–10 must also be applied to major stationary sources of PM–10 precursors, unless EPA determines such sources do not contribute significantly to PM–10 levels in excess of the standards in the area. EPA received one comment, addressed below, on this proposed finding.

Comment: ACLPI asserts that EPA's proposal to waive the RACT requirement for major sources of PM–10 precursors on the ground that such sources do not significantly contribute to PM–10 levels is flawed because: (1) it is based on unapproved, draft modeling; (2) it is based on the unsupported and unwarranted assumption that major source contributions to secondary particulate levels are proportional to their presence in the inventory; and (3) it is based on the use of ''significance'' levels from the Act's new source review program, which are not automatically transferrable to determinations under CAA section 189(e).

Response: EPA used the State's modeling as the technical basis for this FIP. As such, the modeling was subject to public comment as part of the FIP proposal and did not require a prior CAA section 110(k) approval for EPA to use it.

Given the very small presence of major stationary sources in the precursor inventory (less than 7 percent of the entire precursor inventory is from major stationary sources), assuming a linear relationship between major stationary source emissions and their impact on ambient secondary concentrations is reasonable. EPA estimated that major stationary sources contribute 0.6 $\mu g/m^3$ to exceedances of the 24-hour standard and 0.3 $\mu g/m^3$ to exceedances of the annual standard, so even if major stationary sources contribute to secondary particulate formation at 2 to 3 times their presence in the inventory, they would still be an insignificant source of PM–10 in the Maricopa area.

The use of significance levels from the new source review program to determine if a source contributes significantly to PM-10 levels in excess of the air quality standards in the Phoenix area is discussed in the next section.

2. RACM Demonstration

In order to determine which RACM to include in the FIP, EPA first identified a list of 99 potential control measures. See Table 1 in the proposed rulemaking (63 FR 15920, 15929). This list of measures was taken from the list of measures developed for the State's 1991 moderate area plan and included the measures found in EPA's guidance[6] as well as measures recommended by the Maricopa air agencies and in public comments on the State's moderate area SIP. Nine additional potential measures were recommended during the public comment period on FIP: the California Air Resources Board's diesel fuel standards, a mandatory roadside testing program for diesels, enhanced diesel inspection and maintenance (I/M), accelerated replacement/retrofit of pre-1988 heavy duty diesel commercial vehicles, retrofit existing diesel vehicles (for example, with catalysts), California's off-road vehicle and engine standards, California's low emission vehicle standards, continuing expansion of the enforcement of Rule 310, and a smoking vehicle identification and repair program. See Letter, ACLPI to EPA, Region 9, May 18, 1998, p. 4 and Public Hearing to Comment on the Proposed FIP, Reporter's Transcript of Proceedings, p. 7–10 (12:00 p.m. session), p. 5–9 (7:00 p.m. session). EPA added these nine additional measures to its list of 99, for a total of 108 potential measures.

Before evaluating the measures as RACM, EPA screened the list to determine which measures were applicable to the Phoenix area and for which EPA had legal authority. EPA then screened the list to determine

[4] EPA received one public comment from ACLPI which supported EPA's withdrawal of its prior proposal to restore the approval of the State's moderate area SIP as well as the RACM and impracticability demonstrations therein.

[5] In a 1994 rulemaking, EPA established the Agency's selection of the sequence of these two sanctions: the offset sanction under section 179(b)(2) shall apply at 18 months, followed 6 months later by the highway sanction under section 179(b)(1) of the Act. EPA does not choose to deviate from this presumptive sequence in this instance. For more details on the timing and implementation of the sanctions, see 59 FR 39859 (August 4, 1994), promulgating 40 CFR 52.31, ''Selection of sequence of mandatory sanctions for findings made pursuant to section 179 of the Clean Air Act.''

[6] See 57 FR 18070, 18072 (Appendix C) (April 28, 1992).

which measures it has already approved as State RACM or adopted at the federal level and considers RACM. Where EPA had already determined a measure to be RACM, no further analysis of the measure was necessary. Finally, the Agency evaluated the resulting shorter list of measures based on EPA's RACM criteria [7] to identify which measures constituted RACM for the Phoenix area. These three criteria are de minimis source category, technical feasibility (including when the measure could be implemented), and cost of implementation. For any RACM rejected for reasons of technology, cost, size of source category or timing of implementation, the Agency provided a reasoned justification. In all, eleven measures addressing fugitive dust from unpaved roads, unpaved parking lots, disturbed cleared land, and agriculture remained after the application of the RACM criteria.[8]

A complete description of EPA's approach to determining RACM can be found in the proposed rulemaking at 63 FR 15920, 15928. The results of the initial RACM evaluation are presented in Table 3 of the proposed rulemaking. See 63 FR 15920, 15933. The results of the final RACM evaluation and a detailed evaluation of each measure including the reasoned justification if the measure was rejected is in the final RACM TSD.

EPA received several comments on the RACM demonstration and responds to the most significant below. EPA has responded to all comments in the TSD.

Comment: ACLPI comments that the Center disagrees with EPA's proposal for exempting de minimis source categories from the RACM requirement of the CAA. ACLPI asserts that there is no authority in the Act for such an exemption, and that EPA's position that de minimis source categories need only be controlled to the level necessary to produce RFP and timely attainment illegally reads the RACM requirement out of the Act as to such sources.

Response: The CAA does not define ''reasonably available control measure.'' Because the statute is silent, EPA has the discretion to develop a reasonable interpretation. *Chevron U.S.A. Inc.* v. *NRDC,* 467 U.S. 837, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). In 1992 preliminary guidance (General Preamble), EPA set forth the criteria for states to apply in determining RACM and reasonably available control technology (RACT) in PM–10 moderate area SIPs. Among other criteria, if a state could show that a measure was unreasonable because the emissions from the affected source would be insignificant, i.e., de minimis, such a measure could be excluded from further consideration. See 57 FR 13498, 13540. Moreover, EPA believes that determining the reasonableness of a measure based on the degree to which the regulated source contributes to the problem is consistent with the RACM/RACT requirements of CAA sections 189(a)(1)(C) and 172(c)(1). Additionally, RACT is generally only required for major point sources; i.e., sources above a certain size threshold. See, for example, section 182(b)(2). See 57 FR 13498, 13541 for discussion of EPA's historical definition of RACT.

In developing its federal plan for the Phoenix area, EPA applied this criterion by defining a reasonably available measure, in part, as one that applies to a source that significantly contributes to PM–10 exceedances. See 63 FR 15920, 15927. In discussing the de minimis criterion in its proposed rulemaking, EPA noted that the regulatory scheme for particulate matter in subpart 4 of the CAA establishes two graduated levels of controls, RACM and BACM, depending on the severity of the area's air quality. See CAA section 189(a) and (b). These statutory requirements, applicable to moderate and serious PM–10 areas, respectively, clearly contemplate that sources that contribute to a lesser degree to the particulate matter problem need not, in the first instance, bear the burden of emission reductions. Thus, in determining the initial level of control, EPA believes that it is appropriate to focus on the reasonable and practicable measures for reducing PM–10 emissions from those sources identified through air quality modeling as contributing to a greater degree, i.e., significantly, to PM–10 exceedances in the Phoenix area.

Alternatively, even absent EPA's discretionary authority to develop reasonable interpretations in the face of statutory silence, as stated in the General Preamble, the inherent authority of administrative agencies to exempt de minimis situations from a statutory requirement has been upheld in contexts where an agency is invoking a de minimis exemption as ''a tool to be used in implementing the legislative design when ''the burdens of regulation yield a gain of trivial or no value.'' *Alabama Power Co.* v. *Costle,* 636 F.2d 323, 360–61 (D.C. Cir. 1979). See 57 FR 13498, 13540. As noted in EPA's response to the comment below, the provision of RACM for the source categories for which measures were rejected because of de minimis emissions would have little impact on the nonattainment problem in the Phoenix area.

Because the Act can reasonably be interpreted to allow the use of a de minimis criterion for judging whether a measure is RACM, EPA does not believe that its interpretation that de minimis source categories need only be controlled to the level necessary to produce RFP and timely attainment results in reading the RACM requirement out of the Act as to such sources.

Comment: ACLPI further claims that EPA's de minimis exemption is contrary to the Act's emphasis on timely attainment and protection of health, and that control of a source category contributing de minimis amounts could make the difference between attainment and nonattainment. Therefore, ACLPI asserts that it is irrational for EPA to assert that such source categories are invariably de minimis.

Response: For PM–10, EPA has not determined that a given source's or source category's emissions impact is invariably de minimis for determining RACM. What constitutes a de minimis source category is dependent upon specific facts of the nonattainment problem under consideration. In particular, it depends upon whether requiring the application of RACM for such sources or source categories would contribute significantly to the Act's purpose of achieving attainment of the NAAQS as expeditiously as practicable.

For the Phoenix PM–10 nonattainment problem, the subject of this FIP, controls on the source categories that EPA found to be de minimis would not make the difference between attainment and nonattainment. Five Phoenix area monitoring sites with expected PM–10 exceedances were evaluated to determine which source categories were de minimis for the purpose of the RACM demonstration in this FIP: four sites for the 24-hour standard and one site for the annual standard. In order to be considered a de minimis source category in the FIP's RACM analysis, a source category had to be de minimis at all five monitoring

[7] See 57 FR 13498, 13540 (April 16, 1992).

[8] Seven of the additional measures proposed in public comment are controls for diesel or gasoline on-road tailpipe emissions. Because diesel and gasoline tailpipe emissions are de minimis source categories for purposes of PM–10 RACM in Maricopa County, EPA has determined that the seven measures do not constitute RACM for the Phoenix area. One measure, California's non-road engine standards, would control non-road engine emissions. As noted in the RACM Technical Support Document (TSD) for the proposal (p. 8), EPA promulgated non-road engine standards in 1995 and considers these national standards to be RACM. Because RACM has already been adopted for this category, EPA does not need to further evaluate measures, such as the California standards, for this category. See 63 FR 15920, 15929. Because the FIP rule controls the same sources as Rule 310, it effectively operates to expand enforcement of the rule.

sites and de minimis for both the 24-hour and annual standards. As illustrated in Table 1, three of the five evaluated monitoring sites did not have de minimis sources identified as contributing anything to the exceedance. At the two remaining sites—Greenwood and Salt River—de minimis source categories contribute substantially less than 10 percent to the exceedance and in neither case would complete elimination of these sources result in attainment at the site.[9] Hence in Phoenix, the use of a de minimis source category criterion to judge the reasonableness of controls has not excused controls on sources that would make the difference between attainment and nonattainment.

TABLE 1.—CONTRIBUTION OF DE MINIMIS SOURCES TO EXCEEDANCES IN THE PHOENIX METROPOLITAN AREA

Monitor	De Minimis sources without RACM as percent of exceedance	De Minimis sources without RACM as percent of PM–10 standard
24-Hour Exceedances:		
West Chandler	0	0
Gilbert	0	0
Maryvale	0	0
Salt River	3.9	4.3
Annual Exceedances:		
Greenwood	4.7	5.6

Comment: ACLPI claims that EPA's choice of 5 μg/m^3 and 1 μg/m^3 as the significance thresholds for contributors to 24-hour and annual PM–10 levels respectively has no rational basis whatsoever and that the fact that EPA uses these thresholds in the new source review programs does not make them logical choices as thresholds for an entirely different purpose.

Response: As stated in the proposal, EPA is relying on the new source review permitting program's significance thresholds ''as a surrogate for determining which source categories require application of RACM'', and ''not for determining which source categories need controls for attainment.'' 63 FR 15920, 15927. The new source review program and nonattainment planning provisions are both elements in the CAA's title I provisions to attain and maintain the health-based air quality standards. The new source review program's significance levels are used to judge when a source will have a significant impact on a PM–10 nonattainment area. See 40 CFR 51.165(b). For the purposes of this FIP only, EPA used the 5 μg/m^3 and 1 μg/m^3 significance thresholds for essentially the same purpose: to judge whether a source or source category has a significant impact on the Phoenix PM–10 nonattainment area.

A significance threshold should be set at a level that segregates the insignificant source categories from the ones that contribute most to a nonattainment problem. As noted above in Table 1, in Phoenix, de minimis sources, i.e., those that contribute less than 5 μg/m^3 to the 24-hour standard exceedances and 1 μg/m^3 to the annual standard exceedances, account in total for less than 10 percent of the impact at any monitor that exceeds either PM–10 standard. Thus, because the selected thresholds result in the imposition of controls on the sources that have a greater emissions impact on the air quality problem, their application, in EPA's view, is most likely to result in substantial air quality improvements.

There were 12 source categories that fell beneath these surrogate significance thresholds and which EPA determined, therefore, were de minimis in the proposed FIP's RACM analysis: industrial yards, surface mining, other industrial activities, gasoline-powered engines, on-road motor vehicles, diesel-powered on-road motor vehicles, residential wood combustion, other fuel combustion (e.g., residential space and water heaters and commercial boilers), open burning and other area sources, charbroiling, locomotives, airport ground support equipment, and major point sources. Measures for residential wood combustion, open burning, and major point sources categories were excluded from the RACM analysis because RACM had already been approved for them. The list of potential RACM did not include measures for the other fuel combustion sources or the charbroiling categories, nor were any measures for these categories suggested in the public comments received on the FIP. See Table 1 in the proposed rulemaking, 63 FR 15920, 14929. The industrial yards, surface mining, and other industrial activities source categories were found to have an impact only at the Salt River monitor, a monitor for which EPA has already approved an attainment demonstration that showed controls on these sources would not result in more expeditious attainment. See 62 FR 41856, 41862.

Tailpipe emissions from gasoline-powered engines which account for only 0.3 μg/m^3 impact on the annual standard exceedance at the Greenwood monitor are already subject to stringent controls including the emission standards under the Federal Motor Vehicle Control Program, Arizona's premier I/M program, and the State's Clean Burning Gasoline program. Diesel powered on-road vehicles including trucks are also subject to national diesel fuels standards and tailpipe emission standards. See 40 CFR 80.29 (diesel fuel standards) and 40 CFR part 86, subpart H and 62 FR 54694 (October 21, 1997) (diesel tailpipe standards).

Finally, it is important to review how the significance thresholds actually affected the outcome of the RACM analysis. EPA used the de minimis criterion as a justification for excluding measures for tailpipe emissions from on-road motor vehicles, locomotives, airplanes, airport ground equipment, off-road motorcycles, and heavy-duty construction equipment. See Table 3 in the proposed rulemaking, 63 FR 15920, 14933. The two latter categories are very small contributors to the overall non-road engine source category. In total, these categories contributed 1.4 μg/m^3 to the annual standard exceedance at the Greenwood monitor and nothing to the 24-hour exceedances.

Comment: The Arizona Department of Environmental Quality (ADEQ) comments that the determination of significant and de minimis sources for the annual PM–10 standard which was based upon preliminary modeling results using Urban Airshed Modeling (UAM) should be re-evaluated because the emissions inventory and dispersion modeling have not been reconciled against receptor modeling, as recommended under EPA's guidance for PM–10 plans (*PM–10 SIP Development Guideline*, EPA–450/2–86–001, June 1986). ADEQ suggests that this should concern EPA because the inventory source apportionment differs greatly from receptor modeling source apportionment from the *1989–90 Phoenix PM–10 Study* (Desert Research Institute, 1991). ADEQ states that, while these data are not relatively recent, large changes in the character of ambient particulate pollution since the time that study was conducted would not be expected and these data have been corroborated by more recent chemical analysis of particulate monitor filters from monitors in the urbanized portion of the Phoenix metropolitan area. ADEQ notes that the emission inventory is dominated by sources of geologic PM, even for the fine (PM–2.5 and smaller) particulate. ADEQ states that it rarely

[9] EPA has already approved the attainment demonstration for the Salt River monitor. See 62 FR 41856, 41862 (August 4, 1997). This attainment demonstration showed that controls on the de minimis source categories would not result in more expeditious attainment.

finds more than 10 percent geologic materials in the measured fine PM fraction, whereas the emissions inventory estimates that over 70 percent of the fine PM is geologic. Based on the filter data, ADEQ concludes that the role of combustion sources relative to geologic sources is underestimated in the inventory, stating that carbon particles, both primary and secondary, rival geologic material in terms of PM–10 mass, but are minor in the PM–10 inventory that EPA is using.

Response: EPA agrees that, ideally, dispersion and receptor modeling should be reconciled, using accepted protocols, such as the one in *Protocol for Reconciling Difference Among Receptor and Dispersion Models* (EPA–450/4–87–008). However, the concentrations to be reconciled should be matched in terms of sampling period; i.e., 1989/90 data should not be used to reconcile modeling for 1995. Moreover, modeling of recent high PM–10 days would not necessarily be expected to match those observed in the Desert Research field study. During that field study, daily concentrations averaged 4 to 97 $\mu g/m^3$, depending on the monitoring site, with no 24-hour NAAQS exceedances observed. Although the data from this field study were all that were available for the State's initial moderate area plan and were acceptable on that basis, it is not reasonable to require analysis of recent, exceedance days to match the earlier work. Unfortunately, no later receptor modeling was available for the FIP for reconciliation. See also the response to ACLPI's comment regarding the differences between the 1989 and 1995 emission inventory in section IV.D.2. below.

B. FIP Measures

1. Commitment for Agricultural Sector

In its April 1, 1998 proposed rulemaking, EPA proposed an enforceable commitment to adopt and implement RACM as required by CAA section 189(a)(1)(C) for the agricultural sector in the Phoenix nonattainment area. Specifically, the proposed commitment contained enforceable milestones for EPA's proposal (by September 1999), final adoption (by April 2000), and implementation (by June 2000) of RACM for agricultural fields and aprons. In the proposal, EPA explained its intention to use a stakeholder approach for the development of best management practices (BMPs) to meet the CAA's RACM requirement and provide PM–10 emission reductions from agricultural sources in the Phoenix area.

EPA is today taking final action to promulgate an enforceable commitment in 40 CFR 52.127 to adopt and implement RACM as required by CAA section 189(a)(1)(C) for the agricultural sector. While EPA received a number of comments on its proposed commitment, to which it responds below and in the TSD, the Agency is, in this final rule, retaining the text of the commitment as proposed.

Comment: ACLPI and the American Lung Association of Arizona (ALAA) claim that a mere commitment to develop unspecified controls for agricultural fields and aprons is inadequate and does not meet the CAA requirements or EPA guidance for enforceable measures as expeditiously as practicable. The commenters contend that such a commitment offers no assurance that adequate controls will ever be adopted.

Response: Because the commenters provide no citations or analysis, in favor of a broad claim of inadequacy, EPA is left to divine the precise nature of their legal challenge to the provisions for agriculture in the proposed FIP. To the extent that the commenters are suggesting that ''a mere commitment'' is not cognizable under the CAA, EPA notes that the Agency has a long history of approving enforceable commitments in SIPs under the statute. Moreover, the milestones in such commitments have routinely been deemed to be enforceable in CAA section 304 citizen suits. For an extensive discussion of the legal basis for such approvals under the CAA as amended in 1990, see 62 FR 1150, 1155–1157 (January 8, 1997).

In its April 1, 1998 **Federal Register** notice, EPA proposed a commitment to adopt and implement RACM for agricultural fields and aprons by specified dates that, as finalized today, will be enforceable in a citizen suit. In that proposal, EPA explained its rationale for addressing agricultural sources of PM–10 emissions. In short, the Agency believes that, given the current state of its knowledge of the local agricultural community and conditions, the BMP process the Agency intends to pursue is the approach most likely to lead to effective controls on these sources in the shortest possible time frame. See 63 FR 15920, 15935–15936.

EPA has issued detailed preliminary guidance on the appropriate methodology for determining RACM under CAA sections 172(c)(1) and 189(a)(1)(C), as well as a list of available fugitive dust control measures. See 57 FR 13540–13541; 13560-13561 and 57 FR 18071, 18072. EPA followed this guidance in determining federal RACM in the proposed FIP. In carrying out its FIP commitment to propose RACM for agricultural fields and aprons by no later than September 1999, EPA will adhere to the RACM guidance in effect for these sources at that time. As with all proposed EPA rulemakings, the public will have the opportunity to state its views on the legal adequacy of the proposed controls. Should EPA fail to propose RACM for these sources by September 1999, ACLPI and ALAA may pursue their remedies under CAA section 304. Once EPA takes final adoption action, they can of course petition for review of that action under CAA section 307.

Comment: ACLPI argues that since agricultural control measures have been adopted in other states, *e.g.*, in California's Coachella Valley, or identified by the Governor's 1996 Task Force, there is no excuse for delay. ACLPI also comments that even if further delay in development of agricultural controls were warranted, EPA cannot justify taking more than a year to develop proposed rules and that there is no reason the Agency cannot adopt enforceable rules within 6 months. ACLPI asserts that 6 months would allow time for obtaining stakeholder input without turning rule development into a protracted exercise.

Response: Prior to the FIP proposal, EPA evaluated available measures for agriculture adopted by the South Coast Air Quality Management District (SCAQMD): 403—Fugitive Dust; 403.1—Wind Entrainment of Fugitive Dust; and 1186—PM–10 Emissions from Paved and Unpaved Roads, and Livestock Operations. As discussed in the FIP proposal, EPA determined that there was insufficient information available to conclude that implementing the controls in these rules in Maricopa County would, taking all relevant factors into account, be appropriate, i.e., reasonable, and thus constitute RACM for this area. See 63 FR 15920, 15935. EPA intends to consider whether these or other measures would be appropriate for the Phoenix area during the BMP development process.

ACLPI dismisses EPA's statements regarding the Agency's inability to ascertain the suitability of the SCAQMD measures for the Phoenix area by asserting that the ''techniques for controlling agricultural emissions are well known.'' This assertion ignores the fact, noted by EPA in its proposed rulemaking, that PM–10 strategies in an agricultural context are uniquely based on local circumstances, and could vary greatly due to factors such as regional climate, soil type, growing season, crop types, water availability, and relation to

urban centers. 62 FR 15920, 15935. A resolution of these uncertainties, in the context of an assessment of the potential mix of control measures, is critical to a determination of whether controls such as those contained in the SCAQMD rules are reasonably available for the Maricopa County nonattainment area and will contribute to attaining the PM–10 standards in the area. Such an assessment is fully consistent with EPA's guidance regarding the process for determining RACM.

As a result, EPA determined that the goal of attaining the PM–10 standards in Maricopa County with respect to agricultural sources would be best served by engaging all interested stakeholders in a joint comprehensive process on the appropriate mix of agricultural controls to implement in Maricopa County. EPA believes that this process, despite the additional time needed to work through it, will ultimately result in a best and most cost-effective controls on agricultural sources in the County. EPA has thus committed in the final FIP to propose RACM for the agricultural sector by September 1999, with final adoption in April 2000. Given the number of potential BMPs, the variety of crops types, the need for stakeholder input, and the time necessary to develop the BMPs into effective control measures, EPA believes that the adoption schedule is expeditious.[10]

Comment: The American Farm Bureau Federation (AFBF) contends that because little data exist for agriculture's contribution to PM–10, there is a need for sound science before regulation and the California Regional Particulate Matter Air Quality Study (CRPMAQS) will provide additional data. AFBF claims that any agricultural emission controls are premature and should be postponed until the CRPMAQS data is available. The Maricopa County Farm Bureau (MCFB) also comments that agricultural controls are premature, citing University of California and University of Arizona research suggesting current PM–10 emission estimates from agricultural sources are overstated.

Response: On August 4, 1997, EPA disapproved portions of the State's microscale plan, in part because it demonstrated, through a scientific study, that agricultural sources contribute significantly to exceedances of the PM–10 air quality standards in Maricopa County, but did not provide for the implementation of RACM for agricultural fields and aprons. 62 FR 41856, 41862. As a result, EPA is providing for RACM implementation for these sources.

Moreover, other than vague statements about lack of data and sound science, AFBF failed to describe any specific deficiencies in the scientific study that resulted in the conclusions in the microscale plan. Likewise, MCFB failed to cite any specific research data that would refute those conclusions. EPA believes that the microscale plan's conclusions were based on sound science, as demonstrated by an intensive study throughout 1995 which included field surveys, aerial photography, examination of activity logs, and interviews with source operators. See Microscale plan, Appendix A, Chapter 4. The study resulted in substantially better emissions inventory data than were usually available. The study included extensive monitoring and a thorough analysis of the area's PM–10 problem. The State used locally-developed emission factors in its modeling. Overall, the episodes modeled in the microscale plan are representative of the conditions under which the exceedances of the 24-hour PM–10 NAAQS occur. Model performance was generally good and well within what can be expected from the type of model used. See 62 FR 31025, 31031.

EPA will use the CRPMAQS and any other information appropriate for the Maricopa area as the data become available. However, it is important to note that the PM–10 exceedances in Maricopa County are typically caused by wind-blown, primary particulates (i.e., geologic sources). The PM–10 exceedances in the San Joaquin Valley (where the CRPMAQS is underway) are caused by primary and secondary particulates and typically are not associated with high wind events. While the CRPMAQS will yield a tremendous amount of new information, much of the information may not be applicable to Maricopa. For the foregoing reasons, EPA does not believe that postponing development of the BMPs pending the completion of the CRPMAQS would be appropriate.

Comment: AFBF comments that this past March, the U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Agricultural Air Quality Task Force agreed to develop a PM–10 implementation policy that will help guide states and EPA when dealing with agriculture and PM–10. Thus, AFBF believes that any agricultural emission controls are premature and should be postponed until a USDA Task Force policy is available. MCFB and AFBF believe that if USDA develops a national policy which outlines voluntary controls for agricultural PM–10, enforceable provisions should be removed from the FIP and SIP. They state that the final FIP should include language that will allow for the FIP to be revised as data and policy become available.

Response: Regarding the issue of whether the FIP agricultural provisions are premature, see EPA's response to AFBF's previous comment. In addition, EPA does not believe that postponing development of the BMPs pending the development of a USDA Task Force policy would be appropriate. EPA has worked extensively with MCFB, the Arizona Farm Bureau Federation and other stakeholders to craft a workable strategy for Maricopa County. The Arizona Federation supported legislation recently signed by Arizona Governor Hull for a State-led process for developing BMPs.[11] EPA supports the position of the farming interests in Maricopa County to implement the recently adopted legislation and thereby maintain local control over the solution.

If EPA adopts a national policy for PM–10 emissions from agricultural sources that the State and the Maricopa County farming community would like to use, EPA will assess its implications for the area and work with the agricultural leaders and the local air agencies on any appropriate changes to the current strategy.

Comment: MCFB comments that the 24-hour exceedances attributed to agricultural sources occurred during a dust storm and unless BACM are in place, EPA will not consider natural occurrences, such as a dust storm, as a source of PM–10. Because dust storms will happen whether or not BACM are in place, MCFB would like this policy to be changed before any industry is burdened with control measures.

Response: Contrary to MCFB's contention, the exceedances which implicate agricultural sources did not occur during dust storms. Rather they

[10] It is important to note that the measures identified by the Governor's 1996 Task Force were initially intended to be voluntary and would require a process virtually identical to that envisioned by EPA in its FIP in order to be developed into effective controls. The Task Force measures, along with any other measures potentially available for Maricopa County, will be evaluated as part of the BMP development process.

[11] Governor Hull recently signed SB 1427 ''Air Quality Measures'' which authorizes a state-led BMP process. Section 16. Title 49, chapter 3, article 2, of the Arizona Revised Statutes was amended by adding section 49–457, Agricultural best management practices committee; members; powers; permits; definitions. The State has indicated to EPA that section 49–457 will be submitted to EPA in the coming months as a replacement for the portion of the FIP which addresses agricultural sources.

resulted from normal wind conditions which routinely occur. A review of the exceedances and monitoring data used in support of the State's microscale plan indicates that the exceedances were localized and did not occur at many of the monitoring sites. If the exceedances had been caused by a dust storm, exceedances would be expected throughout the County.

EPA does have a policy [12] that permits dust raised by high winds from anthropogenic sources controlled with BACM to be treated as due to a natural event. Key aspects of the policy include that EPA will not designate an area as nonattainment when NAAQS violations are caused by natural events and EPA would consider redesignating an area to attainment if it had BACM in place and the only violations were due to high wind events. However, and more importantly, the policy is explicit that all exceedances, no matter what the cause, are of concern to public health and steps need to be taken to reduce public exposure to unhealthful particulate levels. Therefore, there is a need to reduce the level of exceedances during natural events even if the exceedances cannot be eliminated; hence, the requirement for BACM.

Comment: MCFB states that Maricopa County is the fastest growing county in the nation and that rapid growth is forcing land out of agriculture at a rate of 6,000 acres per year. MCFB urges that because the growth is pushing agriculture out of business, agriculture should be released from further controls or it will only speed the disappearance of agriculture from the Phoenix area. MCFB believes that the only way to eliminate PM–10 is to regulate farmers out of existence in Maricopa County.

Response: In the FIP proposal, EPA acknowledged that agricultural land is being converted into other uses. However, even with rapid conversion, agricultural lands will remain a significant source of PM–10 for the foreseeable future. EPA's purpose here is to effectively control PM–10, not to put farmers out of business. Through the stakeholder process, EPA will work with the farming community to meet that goal while ensuring that the BMPs developed to meet the CAA's RACM requirement are economically feasible. In addition, some cities in Maricopa County have begun to express interest in preserving agricultural lands for open space. This interest may reduce the amount of land being converted from agricultural use.

[12] *Memorandum* from Mary D. Nichols, EPA, to EPA Regional Offices, entitled ''Areas Affected by PM–10 Natural Events,'' dated May 30, 1996.

2. Rule for Unpaved Parking Lots, Unpaved Roads and Vacant Lots

a. Background. In its April 1, 1998 notice, EPA proposed a FIP rule for Phoenix that required RACM for unpaved parking lots, unpaved roads and vacant lots. The reader should consult that notice for a detailed discussion of the requirements EPA proposed for these sources. See 63 FR 15920, 15937.

In the FIP proposal, EPA explained that MCESD has adopted, and EPA has approved, MCESD Rule 310 that requires RACM for fugitive dust sources, including those regulated in the FIP. However, because EPA had previously determined that the County was not enforcing the rule for these three PM–10 sources, the Agency disapproved the State's RACM demonstration for them. 62 FR 41856, 41862.[13] As a result, EPA is promulgating a federal RACM rule covering these sources. Because the deficiency in the State's RACM demonstration did not relate to the substance of MCESD's fugitive dust rule, EPA modeled its proposed rule on Rule 310.

The primary difference between the County rule and EPA's proposed rule was that, because EPA's San Francisco office would be responsible for its enforcement, the FIP rule provided greater specificity and detail regarding which control measures are appropriate for which sources. See 63 FR 15920, 15937; 15942-115943. Since, by its terms, the requirements of Rule 310 are so broad, the general effect of this greater specificity and detail was that EPA's proposed FIP rule, in its entirety, while achieving what the Agency believed to be a RACM level of control, was somewhat narrower in scope than the County's rule as it relates to unpaved roads, unpaved parking lots and vacant lots.[14]

EPA is today promulgating a final FIP fugitive dust rule at 40 CFR 52.128 that incorporates a number of changes in response to public comments. Those changes, summarized and discussed below and in the TSD, reflect the same fundamental philosophy described above. The net result of the substantive changes is to provide sources with greater flexibility than provided in the FIP proposal.[15] For example, the final FIP rule includes an increase from 0.10 acre to 0.50 acre in the de minimis disturbed surface area level for vacant lots; an increase from 150 average daily trips (ADT) to 250 ADT in the ADT exemption level for unpaved roads; a new de minimis use level for unpaved parking lots; and the elimination of the dust control plan (DCP) requirement for weed abatement.

In a separate rulemaking, EPA plans to propose and take comment on amendments to some of the alternative control measure (ACM) and test method provisions of today's final rule. While EPA believes that these changes are warranted,[16] EPA cannot include them in today's final action because they are beyond the scope of the proposed FIP rule. Because EPA has a court-ordered deadline of July 18, 1998 to promulgate the FIP rule, the Agency is taking final action on its rule without the ACM and test method changes, but will publish the proposed amendments shortly.

b. Summary of Changes to the Proposed FIP Rule. In addition to the substantive changes to the proposed FIP rule referenced above that provide additional flexibility, the final FIP rule also includes changes that clarify or revise the RACM implementation schedules. Other final FIP rule changes provide minor clarifications of the FIP rule provisions such as adding language to clarify test methods, exemptions and definitions. The substantive changes to the final FIP rule are summarized below by source category.

Unpaved Parking Lots and Unpaved Roads. The final rule:

[13] Section 221 of Rule 310 is entitled ''Reasonable Available Control Measure (RACM)'' and the term ''RACM'' is used throughout the rule. EPA has approved Rule 310 into the SIP as meeting the enforceability requirements of CAA sections 110(a)(2)(A) and 172(c)(6). See 62 FR 31025, 31032 (June 6, 1997) and 62 FR 41856, 41864. Regardless of the terminology in Rule 310, as just noted, EPA has determined that the County's implementation of the rule does not meet the RACM implementation requirement of CAA section 189(a)(1)(B) for unpaved roads, unpaved parking lots and vacant lots.

[14] For example, section 312 of Rule 310 regulates users of unpaved roads, while EPA's rule proposed regulation of only owners and operators; and Rule 310 does not exempt any unpaved roads, while EPA's rule included a low ADT exemption.

[15] For the reasons discussed in this section, EPA believes that the final FIP rule, with the modifications made in response to comments, meets the RACM requirements of the CAA.

[16] EPA intends to propose new test methods to replace the opacity (and corresponding opacity standard) and the visible crust method as proposed in the FIP and include an additional test method for standing vegetation. In response to public comments, EPA conducted technical field work in Phoenix on the proposed test methods. While they were the best available methods known to EPA at the time of proposal, additional analysis has indicated that other test methods may be more accurate and comprehensive. EPA also intends to propose the elimination of the requirement to submit ACMs to EPA for approval unless the ACM's effectiveness cannot be measured by the test methods or specific language included in the rule. EPA is also considering whether to propose an amendment to the FIP rule that would require RACM for unpaved roads that are neither owned nor maintained by a public entity.

• Increases the ADT exemption level for unpaved roads from 150 ADT to 250 ADT.

• Includes a de minimis use exemption for unpaved parking lots and requires RACM only on surfaces where vehicles park.

• Eliminates the 2-inch requirement for gravel and relies on the applicable test methods for compliance.

• Includes organic stabilizers in addition to chemical stabilizers.

• Eliminates the provision requiring RACM only where 70 percent of the unpaved road is located within the Phoenix nonattainment area and focuses on the unpaved roads or portion of an unpaved road located within the nonattainment area.

• Clarifies that operators of privately-owned public access unpaved roads are the parties responsible for compliance with the RACM requirements.

Vacant Lots. The final rule:

• Eliminates the requirement for dust control plans in favor of a provision requiring compliance with three RACM options.

• Increases the de minimis disturbed area level from 0.10 acre (proposed rule) to 0.50 acre.

• Includes a de minimis exemption (5,000 square feet) for lots disturbed by motor vehicle trespassing.

• Modifies the time frame for RACM to be implemented on disturbed surfaces from eight months to 60 days, except for the initial eight months following the effective date of the rule.

• Expands RACM for motor vehicle disturbances on vacant lots.

• Eliminates the 2-inch requirement for gravel and relies on the applicable test methods for compliance.

• Includes an initial eight-month time frame following the final rule's effective date for implementation of RACM for motor vehicle disturbances and weed abatement.

• Clarifies the rule's test methods and contains language for some test methods that were previously only referenced in the proposed rule.

General Changes. The final rule:

• Clarifies the requirements to which exemptions apply.

• Clarifies that the tribal lands within the Phoenix PM–10 nonattainment area are not covered by the provisions of the FIP rule.

• Clarifies that Apache Junction is not covered by the provisions of the FIP rule.[17]

c. Public Comments and EPA Responses. Implementation Costs.

Comment: The Maricopa Department of Transportation (MCDOT) and the Arizona Chamber of Commerce (ACOC) assert that EPA's interpretation of Maricopa County Rule 310 as currently requiring suppression of dust on all unpaved public access roads is incorrect. MCDOT claims that in the development of the rule, MCDOT, MCESD and other stakeholders agreed to commit to a dust reduction program. MCDOT states that the rule called for use of RACM on unpaved roads in Section 312 with reference to the list of measures in Section 221. MCDOT further states that, while not explicitly stated in the rule, EPA and MCESD have always interpreted RACM to include a financial and cost effectiveness test and that MCESD has in practice accepted the SIP commitments for dust suppression and the five-year work plan for capital projects as what was reasonably available. MCDOT says that its commitment was to stabilize 25 miles of roadway per year. MCESD also makes similar comments regarding its acceptance of the five-year work plans for capital projects as satisfying the RACM requirement.

Response: EPA notes that MCDOT concedes, by its references to sections 312 and 221 of Rule 310, that the regulatory scope of these sections of Rule 310 encompasses the same universe of sources and measures as the proposed FIP rule. Thus, the issue is whether any acceptance by MCESD of MCDOT's SIP commitment to stabilize 25 miles of roadway per year constitutes compliance with the rule. In EPA's final action on the State's microscale plan, EPA determined that the MCESD's implementation of Rule 310 (*i.e.*, enforcement on a complaint basis for vacant lots, unpaved parking lots and unpaved roads[18]) is inadequate and consequently disapproved the RACM demonstration in that plan for these sources. 62 FR 41856, 41865. EPA received no public comments which disagreed with this finding. Moreover, MCESD has never incorporated a 25 mile stabilization limit into Rule 310. Nor has EPA made a determination or approved into the Phoenix PM–10 SIP MCDOT's 25 mile stabilization commitment as representing a RACM level of control. Therefore, as a legal matter, such an understanding between MCESD and MCDOT does not establish MCDOT's commitment as meeting the RACM requirements of the CAA.[19]

As stated above, EPA modeled its FIP rule on Rule 310, but provided greater detail and specificity which had the effect of narrowing the scope of Rule 310. As explained in more detail below, EPA believes, based on the information currently available to the Agency, that the requirements of the final FIP rule meet the economic feasibility criterion in the Agency's guidance and represent RACM for unpaved roads.

Comment: MCDOT and the City of Mesa claim that EPA did not provide any analysis as to what methods or criteria were used to identify RACM and that there is no cost-benefit analysis provided to demonstrate the reasonable availability and effectiveness of the proposed measures. The City of Mesa asserts that, as EPA stated in the proposed rulemaking, any measures that are determined to be de minimis, technologically infeasible or unreasonably costly should be removed from the list of RACM. This commenter concludes that EPA did not conduct this analysis as part of the proposed FIP.

Response: In section IV.B. of its proposed rulemaking, EPA set forth the criteria that the Agency must apply in determining what measures constitute RACM. In general, EPA excludes measures it determines to be unreasonably costly, technologically infeasible or that apply to sources of PM–10 that are de minimis. 63 FR 15920, 15926. In section V of the FIP proposal, EPA provided a detailed description of its approach for determining which RACM to include in the proposed FIP. 63 FR 15920, 15927–34. For the purposes of the RACM analysis, public sector sources, like EPA, should evaluate the criterion relating to the cost of control measure implementation by considering the reasonableness of potential RACM based on the financial and resource capabilities of the governmental entity responsible for implementing such measures. The FIP RACM analysis involved a list of 99 potential RACM which were evaluated against 2 sets of criteria: (1) to determine if a measure was appropriate for federal implementation; and (2) to determine if a measure was RACM. The latter set of criteria include economic feasibility.

[17] The Maricopa PM–10 nonattainment area is comprised of the greater Phoenix metropolitan area in Maricopa County and the Apache Junction area in Pinal County. The State submitted separate moderate area PM–10 plans for the Maricopa County portion and the Pinal County portion of the nonattainment area. The incompleteness finding that triggered EPA's obligation to promulgate this FIP was made only on the submitted plan for Maricopa County and thus EPA's FIP authority only extends to this part of the nonattainment area. The Pinal County plan became complete by operation of law on May 14, 1992. As a result, EPA is clarifying that this FIP does not cover the Apache Junction area.

[18] The fact that MCESD enforces Rule 310 for these sources on a complaint basis is clear evidence that they are included within the regulatory scope of the rule.

[19] See footnote 13.

EPA did not provide a cost-benefit analysis for the proposed FIP measures because, as discussed in the proposed FIP's Regulatory Flexibility Analysis, all of the requirements of the FIP's fugitive dust rule are already required under the County's Rule 310. See 63 FR 15920, 15942. In fact, EPA believes, as stated previously, that the scope of the FIP rule as proposed (and as modified in this final action) is narrower than that of Rule 310. Hence the costs of compliance with the FIP rule should, to the extent that there is any cost differential, be less than those for Rule 310.[20] See 63 FR 15920, 15943–15944 and section VII.B.2. below for detailed discussions of this issue.

Nevertheless, EPA did include estimates of control effectiveness and unit costs in the TSD for the FIP rule.[21] As discussed in the TSD, the control effectiveness estimates were based on available data, which was limited. Thus only relatively crude estimates were developed for the emissions reductions associated with the FIP rule (or implementation of Rule 310). The unit costs are based on information found in documents prepared by or referenced by the Maricopa Association of Governments. The costs associated with the FIP rule and their relationship to the RACM determination are discussed further in response to the following comment.

Comment: MCDOT comments that if Maricopa County were required to pave all public access unpaved roads within its jurisdiction, as described by the proposed rule, it would require an expenditure greater than $100 million, to as much as $300 million, or approximately 5–10 years of the County's total capital improvements budget for transportation projects. Furthermore, MCDOT asserts that additional paving of parking lots and compliance by cities and towns within the County could, in aggregate, be nearly one billion dollars. MCDOT also claims that there is a substantial maintenance expense in the future for all roads paved or stabilized, which will create an additional tax burden.[22]

Response: The final FIP rule does not require the County to pave all of its unpaved roads. The FIP rule requires RACM for unpaved roads with greater than 250 ADT (increased from 150 ADT in the proposed FIP rule). Compliance options include methods of stabilization that are less costly than paving.

As discussed above and in the proposed FIP's Regulatory Flexibility Analysis, the FIP rule does not impose any additional compliance burden beyond that required by Rule 310. Thus, even without the FIP rule, EPA believes that EPA, a citizen, the State and the County could enforce under Rule 310 control measures that are more stringent than those required under the FIP rule.

Because EPA had to develop the FIP rule within the court-ordered schedule, EPA was limited in the cost data available to the Agency for the economic feasibility analysis prong of the RACM criteria. See EPA's response to the previous comment. Unfortunately, while commenters on the proposed FIP rule provided conclusions as to what they deemed to be unreasonable compliance costs, they supplied no supporting data. Therefore, EPA was unable to use this information to refine its determination of the RACM level of control.

Comment: The City of Mesa and MCDOT maintain that local governments should have the autonomy to target unpaved roads that are determined through local study and evaluation to significantly contribute to local or regional PM–10 levels and develop schedules for paving or stabilizing those roads with the greatest potential to decrease PM–10 emissions.

Response: In meeting the RACM requirements of the CAA, states are free to select the mechanisms they deem to be the most appropriate. Such decisions routinely involve evaluations of the concerns of local governments. While EPA has not approved Rule 310 as meeting the Act's RACM requirements for the unpaved road, unpaved parking lot and vacant lot source categories, clearly that rule was intended to provide a County-wide RACM regulatory scheme. If MCESD and the State believe that the rule can be modified to address the concerns raised by the City of Mesa, Maricopa County or other local jurisdictions, it is free to do so and EPA will determine whether the rule as modified represents RACM and can replace the FIP rule. In making this determination, EPA would evaluate information submitted by MCESD in the staff report accompanying the rule justifying why the rule as modified represents RACM.

In developing the FIP rule, EPA was constrained by a number of factors that necessitated a single approach to implementing RACM for the entire Phoenix nonattainment area. For example, EPA's San Francisco office must be able to enforce the rule throughout the nonattainment area and inform regulated parties of the rule's requirements. Resources for public outreach would be inadequate should EPA need to administer RACM differently from one jurisdiction to another. Moreover, even if EPA could administer a rule that specifies a different RACM level of control for the numerous jurisdictions within the Phoenix nonattainment area, EPA lacks the detailed information it would need to do so. Furthermore, as noted above, such information has not been forthcoming in responses to the FIP proposal.

Comment: MCDOT, ADEQ and the Arizona Chamber of Commerce all comment on the issue of legal responsibility for compliance with the proposed FIP rule's requirements for unpaved roads. The Chamber claims that the definition in § 52.128(b)(17) of ''unpaved road'' as ''those * * * owned by any federal, state, county, municipal or other governmental or quasi-governmental agencies' will cause prohibitively expensive disputes over ownership between private and public entities and, due to its vagueness, could include more than 100,000 roads in the County. The Chamber also comments that local governments do not have the financial resources to decide ownership and to implement RACM. MCDOT notes that there is no definition of ''ownership'' and that in some contexts the proposed rule refers to ''owner/operator'' and in others, strict legal ownership. In this connection, MCDOT states that ninety percent of the unpaved, public access roads it maintains in the nonattainment area are not in public ownership. ADEQ makes a similar point and believes that the FIP's requirements should apply only to publicly-owned roads.

Response: EPA's intent in proposing the requirements for unpaved roads was to ensure that responsible entities apply RACM to control these fugitive dust sources. As stated in the proposed rulemaking, EPA intended to accomplish this goal by making the requirements of the FIP rule essentially mirror those of MCESD's Rule 310. Because Section 312 of Rule 310 is very broadly drafted, EPA attempted in its

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[20] For this reason, EPA disagrees with MCDOT's claim that compliance with the FIP rule implicates the cost-benefit analysis requirements of the Unfunded Mandates Reform Act. Nor does the FIP rule constitute a major federal action under the National Environmental Policy Act (NEPA) as the commenter suggests. EPA actions under the CAA are expressly exempt from that statute. 15 U.S.C. § 793(c)(1).

[21] See sections 5.0, ''Emissions Reductions,'' and 6.0, ''Cost Estimates'' of the TSD for the Phoenix FIP Rule for Unpaved Parking Lots, Unpaved Roads and Vacant Lots.

[22] MCDOT elaborates on this point by claiming that long term maintenance data indicate that by paving these roads, life cycle maintenance costs will increase by a factor of five. MCDOT estimates that chemical stabilization will triple the maintenance cost of these roadways.

proposal to narrow those responsible for compliance to owners or operators of the pollution sources. In order to rectify the confusion perceived by the commenters, EPA has amended the final rule to add the word ''maintains'' in the definition of ''owner/operator'' in § 52.128(b)(10) and to add the words ''or operated'' in the definition of ''unpaved road'' in § 52.128(b)(17).

EPA does not believe that the purpose of the FIP's unpaved road requirements is served by limiting them to those sources that are publicly owned, particularly in view of the statistics provided by MCDOT and ADEQ. Therefore, EPA has also removed the word ''public'' from the definition of ''unpaved road'' in § 52.128(b)(17) and, consequently, from the RACM requirements for unpaved roads in § 52.128(d)(2). Thus the final rule applies to unpaved roads that are open to public access, but are privately or publicly owned. These changes are intended to clarify that both owners, and operators, including those who conduct roadway maintenance, are legally responsible for complying with the RACM requirements of § 52.128(d)(2).[23]

In response to comments regarding the vast number of roads implicated by the proposed RACM requirements, and the concomitant compliance costs, EPA has changed the ADT threshold in § 52.128(d)(2) from 150 to 250 and limited the sources to which that section's requirements apply to those portions of an unpaved road located within the Phoenix PM–10 nonattainment area.

Comment: MCESD comments that a 0.10 acre threshold is appropriate at which to expect the application of controls. However, MCESD believes that enforcement on vacant lots should be reactive (i.e. complaint driven) for sites less than a threshold of 10 to 50 acres and proactive on larger sites. However, weed abatement operations that are permitted will be inspected under Rule 310. The inability to know when a vacant lot has been disturbed significantly reduces the cost-effectiveness of a proactive enforcement program for vacant lots. The amount of time spent checking undisturbed vacant lots adds little value to efforts to reduce particulate pollution. In addition, MCESD recommends that EPA refine what level of enforcement and/or implementation represents RACM and which represents BACM. MCESD cites as an example that their contacts with Coachella Valley area cities referenced in EPA's proposal and the TSD established that their vacant lot provisions are enforced on a complaint-only basis.

Response: In its proposed action on the microscale plan, EPA proposed to find that the plan did not assure implementation of either RACM or BACM as required by CAA sections 189(a)(1)(C) and 189(b)(1)(B) and to disapprove the RACM/BACM demonstrations for the unpaved parking lots, unpaved roads, and vacant land source categories. This proposed disapproval was based on the County's enforcement of Rule 310 for these source categories on a complaint-basis only. See 62 FR 31025, 31034–31035. MCESD did not make the comments it now advances in connection with EPA's proposed action on the microscale plan. On August 4, 1997, EPA took final action to disapprove the microscale plan provisions for implementing RACM and BACM for these sources. 62 FR 41856, 41862.

While EPA considered dust control rules for other areas, RACM and BACM determinations are made on a case by case basis. See e.g., 57 FR 13498, 13540, 13561; and 59 FR 41998, 42010 (August 16, 1994). Therefore, the South Coast Air Quality Management District's approach to dust control in Coachella Valley is not determinative of what constitutes the implementation of RACM or BACM for the Phoenix nonattainment area. As demonstrated in EPA's action on the microscale plan, implementation of Rule 310's vacant lot provisions on a complaint basis is not sufficient to prevent these sources from contributing substantially to exceedances of the PM–10 NAAQS in the Phoenix area. See 62 FR 31025, 31031. Furthermore, RACM and BACM are levels of emission reduction control. See 59 FR 41998, 42010. In contrast, the resources allocated for, and the method and frequency of, enforcement are the means of ensuring that such emission reductions occur, but are not themselves control levels.

The provisions of Rule 310 require that RACM, as specified in the rule, be implemented for the unpaved parking lots, unpaved roads and vacant land source categories. Having adopted such a rule, the County has notified the affected parties that they must comply with the rule's requirements and must ensure that it has the resources and a program for ensuring that compliance occurs. See CAA section 110(a)(2). Moreover, since the County has purported to define what constitutes RACM by the terms of its rule, it cannot then fail to ensure that those measures are comprehensively enforced and still meet the requirement to implement RACM in CAA section 189(a)(1)(C). If MCESD believes that Rule 310 as adopted represents a level of control for certain sources that is beyond RACM or BACM, it is free to modify the rule and submit it to EPA with the appropriate justification. EPA will then evaluate the submittal for compliance with the CAA's RACM/BACM requirements.

Comment: ACOC comments that the vacant lot ''Disturbed Surfaces'' provision of the proposed FIP rule would impose a huge economic burden on homebuilders and private landowners due to the fact that any amount of disturbed surface area left vacant for more than fifteen days is subject to the rule. Also, the average private citizen would likely be unaware of this requirement.

Response: Since there is a de minimis vacant lot size, it is not true that any amount of disturbed area is subject to the rule. In the final rule, EPA has increased the de minimis threshold from 0.10 to 0.50 acre of disturbed surface for stabilization of disturbed surfaces. In any case, the rule does not pose a huge economic burden on homebuilders; homebuilders need to receive a permit under Maricopa County Rules 200 and 310 for earth-moving operations over 0.1 acres, and are therefore not regulated under the FIP rule. However, should homeowners prepare vacant property for construction by scraping and leave the surface disturbed for over 15 days prior to construction and permit applicability, they are subject to the FIP rule. EPA based the fifteen-day time period on language in MCESD's Rule 310 and believes it is appropriate as the disturbed vacant lot will be a continual dust source until re-stabilized. EPA plans to provide outreach assistance to vacant lot owners within the first eight months following the effective date of the final rule prior to the required RACM implementation deadline in order to increase awareness of the FIP rule and its requirements.

FIP Rule Requirements. De Minimis Levels.

Comment: Several commenters state that the requirement in the proposed FIP rule to pave all public roads with 150 ADT is unreasonable. Commenters believe that the 150 ADT threshold is arbitrary, includes too many roads and is economically burdensome.

Response: EPA believes that a higher ADT threshold is warranted and represents a RACM level of control. Therefore, in the final FIP rule, EPA has increased the ADT threshold from 150

[23] EPA routinely requires that those responsible for operation and maintenance of a source comply with emission or performance standards established under the CAA. See CAA section 302(k) and (l).

to 250. This higher ADT threshold will relieve some of the cost burden on public entities, while targeting the roads that cause the most PM–10 emissions. The final rule, with the 250 ADT threshold, will control dust on roads which receive two vehicles every five minutes, on average, throughout primary driving hours in a given day rather than one vehicle every five minutes. EPA, through a contractor, will by the end of 1998 acquire more data on the sources subject to the FIP rule, including unpaved roads and their ADT. Should EPA determine in the future, based on additional information, that the final FIP rule requirements do not represent a RACM level of control for the Phoenix area, the Agency will propose appropriate revisions to the FIP.

Comment: The Grand Canyon Council of the Boy Scouts of America comments that the FIP rule should provide a de minimis use level below which requirements are not triggered. The Council claims that the proposed FIP's unpaved parking lot provision does not allow reduced compliance for lots that receive relatively little heavy use during the year (but are used more than 35 days a year). The Council suggests a de minimis level of ingress by fewer than 10 or 25 vehicles per day.

Response: In the final rule, EPA addresses the Council's concern by establishing an exempted use level for unpaved parking lots of 10 vehicles a day or less. Furthermore, since there are a number of unpaved parking lots significantly larger than 5,000 square feet where parking occurs only in a few localized areas, in the final rule, the owner/operator is only required to implement RACM on the portion of a lot (as opposed to the entire lot) on which vehicles park. Notwithstanding regular use of an unpaved parking lot by 10 or fewer vehicles, the rule offers flexibility for lots used no more than 35 days a year to require RACM controls only if over 100 vehicles park on the lot and only for the duration that the vehicles are parked.

Comment: MCESD comments that the 0.10 acre threshold for vacant lots is an appropriate threshold at which to expect application of controls, but that it is not reasonable to enforce all vacant lots at this level, except for weed abatement operations. Several other commenters suggest that a de minimis level of 0.10 acre for vacant lots is too small. Commenters also state that the regulatory burden on small residential property owners would be too high and that disturbed static lots do not contribute significantly to PM–10 compared to disturbed sites with active earth-moving operations. Commenters suggest that the de minimis level be increased to one or five acres.

Response: In the final rule, EPA has increased the RACM implementation de minimis threshold for vacant lot requirements concerning weed abatement and disturbed surface from 0.10 acre to 0.50 acre. The final rule's de minimis threshold of 0.50 acre is responsive to commenter's concerns to focus the FIP rule on larger disturbed areas; however, EPA does not believe a de minimis level greater than 0.50 acres is warranted given MCESD's belief that weed abatement disturbing 0.1 acres merits control. Since the majority of vacant lot disturbances are caused by weed abatement and an uncontrolled weed abated lot would be covered by the requirements for disturbed surfaces, EPA believes there is a need for consistency between the weed abatement requirement and the disturbed surfaces requirement. Thus, EPA believes that a 0.50 acre de minimis level is appropriate.

EPA does not believe that the regulatory burden of the FIP rule will be high on small residential property owners as the majority of residential property owners have homes on their property. The FIP rule does not apply unless the property is vacant and disturbed. Moreover, the FIP rule only applies where a vacant property's disturbed surface area is greater than the exemption levels. Where the FIP rule does apply, property owners have a number of RACM from which to choose, including lower cost alternatives such as re-vegetation and watering. In some cases, vacant lots naturally re-stabilize with rainfall to form a crust or they contain sufficient amounts of aggregate materials or vegetation such that the standards set forth in the FIP rule are met. For these reasons, EPA believes the commenters have over-estimated the regulatory impact of the FIP rule on vacant lot owners. Finally, as discussed in EPA's responses to comments regarding the cost impacts of the FIP rule, because all of the RACM discussed above and found in the FIP rule are already required by Maricopa County's Rule 310, the final FIP rule does not impose any additional regulatory burden beyond Rule 310.

Compliance Deadlines. *Comment:* The City of Phoenix comments that the final rule should move the compliance deadline for disturbed surfaces on vacant lots from eight months after the effective date of the rule to June 10, 2000. The City claims this is needed in order to ensure that property owners become aware of the rule and to implement dust control measures.

Response: EPA believes an eight-month period of time is sufficient to conduct public outreach to vacant lot owners regarding FIP rule requirements to stabilize property or erect barriers. EPA plans to provide outreach assistance to vacant lot owners within the first eight months following the effective date of the final rule prior to the required RACM implementation deadline in order to increase awareness of the rule and its requirements. The only reason the RACM deadline for public unpaved roads is June 10, 2000 is due to EPA's recognition that public entities require additional time to budget funds to implement RACM. EPA believes that the majority of vacant lots with disturbed surfaces can be stabilized (unless further disturbed) by applying water or re-vegetating, thus, a long time-frame for implementing RACM is unwarranted. Notwithstanding the initial eight-month time frame for RACM implementation, the final rule requires that RACM be implemented within two months following a disturbance.

Comment: MCDOT and MCESD comment that the June 10, 2000 deadline for RACM to be implemented on roads with 150 ADT or more is not feasible due to the large amounts of material and/or chemicals needed and the time needed to complete roadway design, right-of-way acquisition and construction. They state that no other attainment area has been required to establish a deadline for completion of stabilization of unpaved surfaces. MCESD and ADEQ suggest that a more appropriate and realistic compliance target should be an established schedule that extends beyond June 2000 for treating public unpaved roads using ADT to establish priorities.

Response: Since EPA has increased the ADT threshold to 250 in the final rule, there will be fewer roads which require controls under the FIP rule by June 2000. The June 10, 2000 deadline has not been established by EPA arbitrarily. As discussed in the proposed rulemaking, the deadline for RACM implementation after the statutory deadline of December 10, 1993 is as soon as practicable. 63 FR 15920, 15926. EPA does not believe it achieves the purposes of the CAA to allow long-delayed RACM implementation to extend beyond June 10, 2000 the statutory deadline for the implementation of BACM.

Comment: MCESD, ADEQ and the City of Mesa comment that the proposed FIP rule's requirement that a dust control plan (DCP) for weed abatement be submitted 60 days in advance is impractical, given that there is a fire

endangerment concern between the time weed abatement public notices are issued and a 60-day lead time to submit a DCP to EPA.

Response: In the final rule, EPA has eliminated the requirement that DCPs for weed abatement be submitted to EPA for approval. Instead, the final rule establishes RACM requirements for conducting weed abatement on vacant lots. The RACM are those dust control measures that EPA would have expected to see in a DCP. The RACM are written broadly enough to allow responsible parties flexibility in what measures they use to control dust, provided that the surface is stabilized immediately following weed abatement to the standards set forth in the rule.

Alternative Control Measures (ACMs)

Comment: The City of Mesa comments that the provisions in the proposed FIP rule for ACMs are unduly burdensome (in that they must be submitted to EPA for approval). Rather, the City believes that if an ACM renders the disturbed surface area stabilized without any ancillary adverse impact, it should be encouraged.

Response: EPA agrees with this comment and, in a proposed amendment to the final FIP rule, the Agency intends to propose that ACMs be listed among other RACM in each provision to which they apply. EPA intends to propose that as long as the ACM meets the test method's criteria for stabilization and does not involve use of a prohibited material, prior EPA approval would not be required. Thus, the only ACM that would be submitted to EPA would be one that does not involve stabilizing an unpaved surface.

Vacant Lot RACM. Comment: The City of Phoenix comments that EPA should allow alternatives for controlling dust from vacant lots where vehicles have caused the disturbed surface in addition to posting signs or barriers. The City claims that these controls are required regardless of the severity of the disturbance or implementation of other dust control measures, such as gravel.

Response: In the final FIP rule, EPA adds gravel and chemical/organic stabilizers to the list of RACM in the ''Motor Vehicle Disturbances'' provision. Therefore, a vacant lot owner may comply with both the ''Disturbed Surfaces'' and ''Motor Vehicle Disturbances'' requirements by applying one control measure. Applying gravel or stabilizers are the only RACM specified in the rule modification since other control measures listed under the ''Disturbed Surfaces'' requirement do not ensure dust control should further vehicle trespass occur.

Comment: Several commenters question the technical justification for a 2-inch gravel requirement, suggesting that two inches of gravel may not be necessary in all cases to control particulate matter sufficiently.

Response: EPA has eliminated reference in the FIP rule to 2 inches of gravel. Since the final rule requires that gravel be applied and maintained to a sufficient extent necessary to result in a stabilized surface, the test method will be the sole indicator of whether a source is sufficiently graveled.

Test Methods. Comment: MCESD and the City of Mesa comment that the proposed visible crust test method for vacant lots would not be appropriate since local native soil crusts may crumble easily and measure less than 0.6 centimeters in thickness, yet still form a protective surface. ACOC and the Salt River Project (SRP) also question the scientific substantiality of the proposed visible crust test method.

Response: In response to comments on the FIP proposal, EPA recently conducted the proposed test methods on sources in the Phoenix non-attainment area. As a result of the findings, in a forthcoming proposed amendment to the final FIP rule, EPA will propose a new test method for visible crusts that involves dropping a small steel ball from a height of one foot and checking for pulverization of the surface. EPA believes that this new method allows a higher degree of replicability than the existing visible crust test method and is a better indicator of whether the crust is sufficiently protective given variations in soils.

Comment: Several commenters mention that the requirement in the proposed FIP rule that the visible opacity of vehicles be tested at a specific speed on unpaved roads and unpaved parking lots is impractical and may be unsafe/illegal.

Response: EPA has eliminated the speed limit requirement in the final rule. In a forthcoming proposed amendment to the final FIP rule, EPA will propose a new test method for unpaved roads and unpaved parking lots that involves collecting a surface sample as opposed to conducting a visible opacity test at a certain vehicle speed.

Comment: Several commenters suggest that the proposed test methods are too complex to be understood and utilized by property owners who must comply with the rule.

Response: EPA has eliminated the speed limit requirements from the test method in the final rule. In its forthcoming proposed amendment to the final FIP rule, EPA will propose to eliminate the opacity test method for visible emissions from unpaved roads and unpaved parking lots. The opacity test method requires opacity readings to be taken by persons certified in visible emissions training. EPA agrees that this test method is too complex for most property owners to attempt. Regarding the remaining test methods in the final rule, EPA believes much of the perceived complexity is a result of technical language which is necessary to ensure the test methods are enforceable. A certain minimum amount of complexity is necessary to ensure that the test methods can be repeated by more than one individual consistently and accurately, as well as to ensure that they do not result in over-controlling sources. EPA plans to provide outreach assistance to property owners which will explain the test methods in layman's terms and provide information on the commercially available resources needed to conduct them.

Enforcement of FIP Rule. Comment: ACLPI states that while it supports EPA's proposal to provide more enforcement resources for Rule 310, the staff provided will still be grossly inadequate. ACLPI notes that EPA does not explain why just two additional inspectors will be adequate. ACLPI states that the Governor's Air Quality Strategies Task Force in 1998 preliminarily recommended that the County add 9 new positions for Rule 310 enforcement and that, to comply with the RACM mandate, Maricopa County must have the same or better enforcement resources than other air districts which have enforcement staffs of such size (or larger). ACLPI also claims that EPA's proposal also fails to provide the legal resources necessary to enforce against violators detected by the inspectors and believes that the FIP should require the County (or EPA) to have a full time attorney to conduct enforcement cases under Rule 310.

While welcoming EPA's proposal to provide additional enforcement resources, ACLPI urges that the Agency take steps to ensure that such action does not encourage continuing and repeated avoidance by the County of its obligation to provide these enforcement resources. ACLPI asserts that one appropriate step would be for EPA to impose mandatory or discretionary sanctions on the County for its failure to adequately fund Rule 310 enforcement and suggests that if this or other steps are not taken, local and state governments will underfund the programs and wait for EPA to impose a FIP that includes federal enforcement dollars.

Response: EPA would like to clarify at the outset that the discussion in the proposed rulemaking to which ACLPI refers addressed the Agency's compliance approach for the proposed FIP rule, and not Rule 310. Thus, to the extent that ACLPI's comments are directed to the inadequacy of Maricopa County's program for Rule 310 enforcement, they are not germane to this rulemaking.[24] In particular, ACLPI's remarks regarding inspection and enforcement resource levels for Rule 310 are entirely inapplicable. The statistics ACLPI cites from the Governor's Task Force Report relate to resources for the entire universe of sources, both permitted and unpermitted, regulated under Rule 310. The scope of the FIP rule, however, is considerably narrower than that of Rule 310 in that it only addresses vacant lots, unpaved parking lots, and unpaved roads, all fugitive dust sources not permitted under Rule 310.[25]

To the extent that ACLPI's judgments may call into question the adequacy of EPA's enforcement of its own rule, EPA would like to clarify its FIP compliance program in two respects.[26] First, in implementing the FIP rule, EPA is constrained by the remote location of its Regional Office in San Francisco. Because of that constraint, EPA believes that its compliance program for the FIP rule will benefit substantially by some kind of local presence. Therefore, EPA will be funding two inspectors to be provided to MCESD for fiscal year 1999 (October 1, 1998 through September 30, 1999). The primary responsibility of these inspectors will be to ensure compliance with the FIP rule.[27] If the FIP rule remains in place after September 1999, continuation of these inspector positions will depend on whether additional funding can be secured by EPA.

Second, as discussed in the proposed rulemaking, in addition to the two inspectors assigned to MCESD, the Agency will have at its disposal legal and technical personnel from its San Francisco office to ensure compliance with the FIP rule by conducting periodic joint inspections with MCESD and undertaking enforcement actions.

Finally, EPA is somewhat perplexed by ACLPI's suggestion that, in the absence of federal CAA sanctions, local and state governments will underfund their Rule 310 enforcement program and wait for EPA to impose a FIP with federal enforcement dollars. As just explained, EPA is not in the FIP providing either funding or positions for the benefit of MCESD. Moreover, it has been the Agency's experience that the specter of an active federal presence in local affairs acts as a powerful motivator, a view that ACLPI itself has historically advanced. Indeed, the recent adoption of State legislation regulating PM–10 emissions from agricultural activities is evidence of such an effect.

C. Impracticability Demonstration

The CAA requires moderate PM–10 nonattainment areas to demonstrate attainment of the PM–10 annual and 24-hour standards, or to show that attainment by the statutory deadline is impracticable. See section 189(a)(1)(B). For this FIP, EPA has demonstrated that existing State controls, together with the RACM being promulgated by EPA, are not sufficient for attainment of either the 24-hour or the annual PM–10 standard by December 31, 2001.[28]

1. Annual Standard

EPA based its annual standard attainment analysis on air quality modeling for the 1995 year performed by the Maricopa Association of Governments for Phoenix serious area PM–10 plan that is currently under development. See 63 FR 15920, 15939.

As can be seen in Table 2, even assuming 100 percent control for sources subject to the FIP rule and the commitment for the agricultural sector (an unrealistic level of control; actual control levels will be less), simulated concentrations are still over the annual standard of 50 ''μg/m^3. Thus, pursuant to CAA section 189(a)(1)(B), EPA is finding that attainment of the annual PM–10 standard by December 31, 2001 is impracticable with the implementation of RACM.

TABLE 2.—ANNUAL STANDARD IMPRACTICABILITY DEMONSTRATION

Source category	Concentration after SIP controls μg/m^3	Maximum possible control (percent)	Concentration after FIP controls μg/m^3
Paved road dust	20.	.....	20.0
Unpaved road dust	2.9	100	0.0
Gasoline and Diesel vehicle exhaust	1.2	.....	1.2
Agricultural dust	0.2	100	0.0
Other area sources	1.4	.....	1.4
Residential wood combustion	0.4	.....	0.4
Construction/earth moving	5.4	.....	5.4
Construction equipment, locomotives, other non-road engines	1.4	.....	1.4
Major point sources	0.2	.....	0.2
Windblown dust	0.4	100	0.0
Anthropogenic Total	33.5	.....	30.0
Background	22	.....	22
Total	55.5	.....	52.0

[24] That said, EPA agrees that the resources devoted by the County to compliance with Rule 310 are inadequate with respect to unpermitted sources and made such a finding in its action on the State's microscale plan. 62 FR 41856, 41860. In a March 10, 1998 letter to Al Brown, Director, MCESD, EPA stated that to replace the FIP rule, MCESD must submit, as a SIP revision, a credible Rule 310 enforcement strategy that demonstrates that the County has adequate resources of its own to ensure that Rule 310 is fully implemented for all fugitive dust sources. In this regard, EPA supports the additional resource levels recommended by the Governor's Task Force and understands that MCESD is in the process of trying to obtain them for the purpose of fully implementing Rule 310.

[25] The statistics ACLPI cites on the enforcement resources of other air districts represent the total number of inspectors for each of these districts to conduct all air quality inspections for all pollutant sources. Therefore, these staffing levels cannot be used as evidence that MCESD underfunds its fugitive dust program.

[26] The program is discussed further in the FIP proposal at 63 FR 15920, 15938–15939.

[27] Nevertheless, these two inspectors will also have the opportunity to identify and report Rule 310 violations. Thus they will be able to provide some incidental assistance to MCESD's Rule 310 compliance efforts.

[28] Under CAA section 189(c)(1), the moderate area attainment deadline was December 31, 1994. The Phoenix nonattainment area is now classified as serious. As a result, for the purposes of this moderate area FIP and the State's serious area SIP, the attainment deadline is December 31, 2001. CAA section 189(c)(2).

2. 24-hour Standard

EPA based its 24-hour standard attainment analysis on air quality modeling of exceedances at four monitoring sites that was performed by ADEQ for the microscale plan. The four monitoring sites are: (1) Salt River, in an industrial area; (2) Gilbert, affected by agricultural and unpaved parking lot fugitive dust emissions; (3) Maryvale, with disturbed cleared areas nearby due to construction of a park; and (4) West Chandler, near a highway construction project. These sites were selected to represent a variety of conditions within the Maricopa nonattainment area. See 63 FR 15920, 15939.

The microscale plan demonstrated attainment at the Salt River and Maryvale sites, and EPA approved the attainment demonstrations at these sites at the time it took final action on the microscale plan. 62 FR 41856, 41862. The microscale plan did not demonstrate attainment at the West Chandler and Gilbert sites. These sites are addressed here.

The FIP rule requires RACM for unpaved roads, vacant lots, and unpaved parking lots. These sources in total contribute 25 percent of the emissions to the exceedance at the Gilbert site and just 1 percent of the emissions to the exceedance at the West Chandler site. The FIP rule has a substantial impact for the Gilbert site, reducing ambient concentrations from 213 to 176 ''μg/m^3 but much less effect at West Chandler, reducing concentrations from 332 to just 316 ''μg/m^3. See Table 3. Because the FIP rule does not result in attainment at either site, EPA is finding that attainment of the 24-hour standard is impracticable with the implementation of RACM.

As can be seen from Table 3, attainment at both sites will require substantial reductions from agricultural sources in addition to reductions from unpaved roads, unpaved parking lots, and vacant lots. While reductions from agricultural sources are expected through the implementation of BMPs by 2001, EPA is unable to quantify the impact of these BMPs at this time because they have not yet been developed. Therefore it is not possible to determine an expected level of control. Once the BMPs have been defined, EPA will be better able to estimate reductions from agricultural sources and will revisit this impracticability demonstration for the 24-hour standard and modify the demonstrations as necessary.

TABLE 3—IMPRACTICABILITY DEMONSTRATION FOR THE 24-HOUR PM–10 STANDARD

Source category	Concentration after SIP controls μg/m^3		FIP control (percent)	Concentration after FIP controls μg/m^3	
	Chandler	Gilbert		Chandler	Gilbert
Agricultural fields	194.7	.....	.....	194.7	
Agricultural aprons	21.7	55.6	.....	21.7	55.6
Road construction	6.9	.....	.....	6.9	
Unpaved roads	0.5	0.5	64	0.2	0.2
Paved Roads	0.2	1.6	.....	0.2	1.6
Unpaved parking lots	.....	51.3	56	.....	22.6
Vacant lots	28.1	14.5	56	12.4	6.4
Anthropogenic Total	252.1	123.4	.....	236.1	86.3
Background	80	90	.....	80	90
Total	332.1	213.4	.....	316.1	176.3

See section IV.D. below for a discussion of the estimated emission reductions from the FIP control measures.

EPA received a number of comments on the proposed impracticability demonstrations. The most significant comments have been addressed below and all comments have been fully addressed in the Response to Comments TSD.

Comment: ACLPI comments that EPA's impracticability demonstration is flawed because it does not include all RACM and uses an unapproved state model. ACLPI asserts that EPA's failure to include so called ''de minimis'' measures in the FIP, as well as the other measures the Agency has excluded from the FIP, could very well make the difference between the showing of impracticability and a showing of attainment. ACLPI notes that under the analysis in Table 5 of the proposed rulemaking, the FIP measures could reduce annual PM–10 levels to 52 μg/m^3—only 2 μg/m^3 over the standard and yet EPA's ''de minimis'' policy allows the Agency to avoid adopting any measures that produce less than 1 μg/m^3 in improvement and thus, an additional package of ''de minimis'' measures could well make the difference between attainment and nonattainment. Based on the data in Table 2 of the proposed rulemaking, ACLPI asserts that, combined, the ''de minimis'' sources in that table would reduce PM–10 by 4.0 μg/m^3 on an annual basis—more than enough to produce attainment based on the data in Table 5 of the Proposed rulemaking. The Center concludes that far from showing impracticability, EPA's analysis shows that timely attainment is practicable with the adoption of additional measures that are already identified and for which there is no reasoned justification to reject.

Response: EPA believes that ACLPI's comment addresses only the impracticability demonstration for the annual standard and is responding to it on that basis. As noted above, EPA used the State's modeling as the technical basis for this FIP. As such, the modeling was subject to public comment as part of the FIP proposal and did not require a prior CAA section 110(k) approval for EPA to use it. EPA also demonstrated that it has included all RACM available to it in the impracticability demonstration. See section IV.A.

The projected 52 μg/m^3 concentration in Table 5 of the proposed rulemaking assumes complete elimination of emissions from unpaved roads, agricultural dust, and windblown dust—an unrealistic level of control. See 63 FR 15920, 15939. There is currently insufficient information to accurately calculate regional reductions from the FIP measure for unpaved parking lots, vacant lots, and the commitment for agricultural controls. By showing that attainment would still not result even with 100 percent control on these sources, EPA was able to find that attainment of the annual standard is impracticable with the implementation of RACM. However, because it was derived from an assumption of 100

percent control, the projected 52 μg/m^3 annual level is too optimistic and the actual concentration after implementation of the FIP RACM will be higher.

The total impact of all de minimis source categories combined is 3.4 μg/m^3, or less than 10 percent of the exceedance of the annual PM–10 standard at the Greenwood monitor.[29] Attainment at the Greenwood monitor would require elimination of more than half the emissions from these sources in addition to eliminating all emissions from the sources subject to the FIP measures. These de minimis sources include on-road motor vehicles (already subject to tailpipe standards, I/M, and clean fuel requirements), residential wood combustion (already controlled at RACM levels), all other combustion sources, and major point sources (already subject to RACT). No measures exist that could reduce emissions from these sources by more than half by the end of 2001, short of banning or substantially curtailing their operations; neither option would constitute a reasonable level of control. A more practicable approach to attaining the standard at Greenwood is to a obtain the needed emission reductions from the source categories that contribute significantly to the nonattainment problem at the Greenwood monitor, source categories such as unpaved road dust and paved road dust. EPA is promulgating a rule in this FIP to reduce emissions substantially from unpaved roads and EPA evaluated a large number of measures to reduce emissions from paved roads (including many transportation control measures) and found none that were RACM for the Agency.

D. Reasonable Further Progress Demonstrations

As discussed in the proposal, EPA interprets the RFP requirement for areas demonstrating impracticability as being met by showing that the implementation of all RACM has resulted in incremental emission reductions below pre-implementation levels. See 63 FR 15920, 15927.

RFP is demonstrated separately for the annual and 24-hour standards because in the Phoenix area the mix of sources contributing to the annual standard exceedances differs from that contributing to the 24-hour exceedances. In addition, since PM-10 exceedances in the Phoenix area are related almost entirely to primarily-emitted PM–10, only emissions of primarily-emitted PM–10 are evaluated for RFP.

EPA has revised the annual standard RFP demonstration from the proposal to reflect the changes to the FIP fugitive dust rule. Although EPA does not believe that annual incremental reductions are required to be shown for moderate PM–10 nonattainment areas demonstrating impracticability, EPA has also revised the RFP tables (Tables 7, 8, and 9) from the proposal to show that the FIP does, in fact, result in annual incremental reductions. See section IV.D.1. below.

EPA received a number of comments on its interpretation of the RFP requirement for areas demonstrating impracticability as well as on the specifics of the RFP demonstration. EPA responds to the most significant comments in section IV.D.2. below and to all comments received in the response to comments TSD found in the docket for this rulemaking.

1. Revised RFP Demonstrations

a. Annual Standard. EPA has revised the annual standard RFP demonstration to account for the increased ADT threshold for controls on unpaved roads in the FIP fugitive dust rule. Revisions to the FIP rule's provisions for vacant lots or unpaved parking lots did not affect the annual standard RFP demonstration because no reductions were assumed from these sources in the proposed demonstration. The final annual standard RFP demonstration showing incremental reductions between 1998 and 2001 is presented in Table 4.

Emission levels for 1998, 1999, 2000, and 2001 were calculated by growing emissions from the emission inventory base year of 1994 and the modeling year of 1995 based on growth factors provided by MAG and by incorporating reductions from approved State RACM and BACM controls. Emissions levels for 2000 and 2001 also reflect the estimated emission reductions from the FIP rule for unpaved roads. The estimated effectiveness of controls on unpaved roads, 80 percent, was based on the research done for the microscale plan on the effectiveness of controls for unpaved parking (see Table 4–1 in the final microscale plan) and assumes a rule effectiveness of 80 percent per EPA's guidance (57 FR 13503). EPA has not changed these estimated control and rule effectiveness percentages in this final demonstration; however, the Agency estimates that the increase in the ADT applicability threshold in the FIP rule will reduce the total unpaved road VMT impacted by the rule from 90 percent to 50 percent.

The annual standard RFP demonstration did not include emission reductions from the implementation of the FIP rule for unpaved parking lots and vacant lots. Although emission reductions are expected from these sources starting in 1999, there currently is insufficient information on the number of unpaved parking lots and vacant lots that will be subject to the FIP to estimate an emission reduction. Information from the surveys EPA will perform after promulgation of the rule will help in quantifying emission reductions from these sources. In addition, while reductions from agricultural sources are also expected starting in 2000, no emission reductions were assumed in the RFP demonstration for agricultural sources because the ultimate RACM have not been defined and therefore the expected level of control cannot be determined. Because the reductions expected from vacant lots, unpaved parking lots, and agricultural sources cannot at this time be quantified, the showing that the FIP will result annual incremental reductions is necessarily qualitative.

As can be seen in Table 4, in order to show annual reductions from 1998 to 1999, emission reductions of more than 87 mtpy would need to result from the implementation of the FIP fugitive dust on vacant lots and unpaved parking lots. The total regional inventory for unpaved parking lots is currently unknown. The regional inventory for vacant lots, however, is estimated to be 2020 mtpy in 1999. See RFP TSD. The FIP rule will need to reduce emissions in this category by a little more than 4 percent in order to demonstrate annual incremental reductions. Because application of dust control measures to a disturbed surface is expected to reduce fugitive dust from that surface by 56 percent (see 63 FR 15920, 15941), EPA is confident that the rule will achieve at least a 4 percent overall reduction in regional fugitive dust emissions from vacant lots sufficient to show reductions in total regional PM–10 emissions from 1998 to 1999.[30]

As can be also be seen in Table 4, in order to show annual reductions from 2000 to 2001, emission reductions of more than 239 mtpy would need to

[29] The total sum of the impact of the de minimis source categories listed on Table 2 of the Proposed rulemaking is 4.0 μg/m^3; however, in this FIP both agricultural dust and windblown dust are considered significant sources because they are significant sources for the 24-hour standard. As result the total impact of de minimis sources at the Greenwood monitor is only 3.4 μg/m^3.

[30] This conclusion is supported by noting that the estimated reductions from applying the FIP rule to *one* vacant lot for *one* day at the Chandler monitoring site is 3.5 metric tons per windy day, 4 percent of the total annual reductions needed to show an incremental reduction from 1998 to 1999.

result from the implementation of the BMPs on agricultural sources. The projected regional inventory for agricultural sources is 6,972 mtpy in 2001. See RFP TSD. The FIP rule will need to reduce emissions in this category by slightly more than 3 percent in order to demonstrate annual incremental reductions between 2000 and 2001. Again, EPA has every confidence that such minimal reductions can be achieved.

TABLE 4.—RFP DEMONSTRATION FOR THE ANNUAL STANDARD

Year	Total PM–10 emissions metric tons/year
1998	61,017.
1999	61,104—reductions from vacant lots and unpaved parking lots.
2000	57,607—reductions from vacant lots and unpaved parking lots.
2001	57,846—reductions from vacant lots, unpaved parking lots, agricultural sources.

b. 24-hour Standard. For the 24-hour standard, EPA evaluated RFP only for the Gilbert and West Chandler sites, having already approved the RFP demonstrations at the Maryvale and Salt River sites as part of its action on the microscale plan. 62 FR 41856, 41862.

Changes to the FIP fugitive dust rule do not affect the emission reductions assumed in the proposed RFP demonstrations for the 24-hour standard because the rule will continue to apply in the same manner and to the same extent as was assumed in the proposal. In other words, the changes to the FIP rule do not affect its application to the sources surrounding the Gilbert and West Chandler sites.

As with the annual standard demonstration, 1998 emission levels were adjusted to reflect implementation of the improved controls on construction sources and 2001 emissions levels to reflect the estimated emission reductions from the proposed FIP rule for unpaved roads, unpaved parking lots, and vacant lots. Emission reductions estimates are again based on the research done for the microscale plan and assume a rule effectiveness of 80 percent per EPA's guidance. For unpaved roads, a control effectiveness of 80 percent is assumed. For vacant lots and unpaved parking lots, a control effectiveness of 70 percent is assumed. As with the annual standard, no emission reductions were assumed for agricultural sources. A more detailed analysis of the RFP demonstrations for the Gilbert and West Chandler monitors can be found in the RFP TSD.

i. Gilbert Monitoring Site. The 24-hour exceedances at the Gilbert monitor are impacted by emissions from agricultural aprons, disturbed cleared lands (i.e., vacant lots), unpaved parking lots, and paved roads. 62 FR 31025, 31031. As can be seen from Table 5, the emission reductions from the FIP rule and commitment for unpaved parking lots and vacant lots and agricultural sources are sufficient to assure incremental emission reductions between 1998 and 2001 and annual incremental reductions[31] in the interim years. EPA, therefore, finds that the FIP assures RFP for the 24-hour standard at the Gilbert monitor.

TABLE 5.—RFP DEMONSTRATION FOR THE 24-HOUR STANDARD—GILBERT MONITORING SITE

Source categories	FIP control (%) year	Emissions(kg/day)			
		1998	1999	2000	2001
Agriculture aprons	0 (2001)	165	165	165	165 (-reductions from BMPs).
Vacant lots	0.56 (1999)	76	33	33	33.
Unpaved parking lots	0.56 (1999)	190	84	84	84.
Paved roads	0	5	5	5	5.
Total	.....	436	287	287	287 (-reductions from BMPs).

ii. West Chandler Monitoring Site. The 24-hour exceedances at the West Chandler monitor are impacted by emissions from agricultural fields, agricultural aprons, road construction, disturbed cleared lands (i.e., vacant lots), unpaved roads, and paved roads. 62 FR 31025, 31032. As can be seen from Table 6, the emission reductions from the FIP rule for unpaved roads and vacant lots and and the commitment for controls on agricultural sources are sufficient to assure incremental emission reductions between 1998 and 2001 and annual incremental reductions in the interim years; therefore, EPA finds that the FIP assures RFP for the 24-hour standard at the West Chandler monitor.

TABLE 6.—RFP DEMONSTRATION FOR THE 24-HOUR STANDARD—WEST CHANDLER MONITORING SITE

Source category	FIP control (%) Year	Emissions (kg/day)			
		1998	1999	2000	2001
Agriculture	0 (2001)	19378	19378	19378	19378 (-reductions from BMPs).
Vacant lots	0.56 (1999)	6188	2723	2723	2723.
Road Construction	0	440	440	440	440.
Agricultural apron	0 (2001)	1954	1954	1954	1954 (-reductions from BMPs).
Unpaved road	0.64 (2000)	49	49	18	18.
Paved roads	0	37	37	37	37.
Total	.....	28046	24581	24550	24550 (-reductions from BMPs).

[31] While there is no change in total emissions from 1999 to 2000, EPA believes that annual incremental reductions are still shown because of the large reduction occurring in the early years between 1998 and 1999.

2. Response to Comments on the RFP Demonstration

EPA has responded to the most significant comments on the proposed RFP demonstration below. The TSD contains EPA's response to all comments received.

Comment: ACLPI asserts that section 172(c)(2) of the Act specifically requires all nonattainment area SIPs to show RFP, and that both the Act and longstanding EPA guidance require that, to satisfy the RFP requirement, plans must provide for annual reductions in total emissions sufficient to produce steady progress toward attainment on a straight line basis or faster, citing CAA section 171(1) and 59 FR 41988, 42016 (August 16, 1994); 52 FR 45044, 45066 (November 24, 1987); 46 FR 7182, 7185 (January 22, 1981); EPA, Guidance Document for Correction of Part D SIP's for Nonattainment Areas (January 27, 1984). ACLPI disagrees with EPA's claim that for moderate areas demonstrating impracticability, the Act's RFP requirement is met by a showing that implementation of all RACM will result in ''incremental emission reductions below pre-implementation levels.'' ACLPI asserts that the Act does not in any way waive the RFP requirement for moderate PM–10 areas claiming impracticability and explicitly sets out RFP as a requirement separate, distinct and in addition to RACM, comparing section 172(c)(1)(RACM) with section 172(c)(2)(RFP). ACLPI claims that EPA's reading of the RFP requirement for areas demonstrating impracticability would render the RFP mandate a mere redundancy, a result that is contrary to well-settled rules of statutory construction, citing N.J. Singer, 2A Statutes & Statutory Constr. § 46.06 at 119–20 (1992 Rev.).

Response: EPA agrees with ACLPI that the RFP requirement in section 172(c)(2) is a separate and distinct requirement for nonattainment plans that is in addition to the requirement for RACM in section 172(c)(1). It also agrees that all nonattainment plans must address the RFP requirement, including moderate area PM–10 plans demonstrating impracticability. EPA has not waived the RFP requirement and has fully addressed it in this FIP. See section IV.D.1. Section 171(1) of the CAA defines RFP as:

> [S]uch annual incremental reductions in emissions of the relevant air pollutant as are required by [Part D of title I of the Clean Air Act] or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.

As seen from this definition, the adequacy of the emission reductions required to demonstrate RFP is inextricably linked to the reductions necessary to ensure attainment and thus to the control strategy necessary for attainment. Because of this interconnection, EPA has historically required RFP to be demonstrated by showing that nonattainment plans provide for annual incremental emission reductions sufficient generally to maintain at least linear progress toward attainment by the applicable attainment deadline. See, e.g., 43 FR 21673, 21675 (May 19, 1978), Criteria for Proposing approval of Revisions to [1979] Plans for Nonattainment Areas; 46 FR 7185 (January 22, 1981), Approval of 1982 Ozone and Carbon Monoxide Plan Revisions for Areas Needing an Attainment Date Extension [under CAA section 172(a)(2)]; 59 FR 41988, 42016 (August 16, 1994), State Implementation Plans for Serious PM–10 Nonattainment Areas. As described, for example, in the 1978 guidance document, the required linear reductions were represented graphically as a straight line drawn from the base year (i.e., the submittal year for the plan) emission inventory to the allowable emissions in the attainment year. RFP was shown if the annual emission reductions were sufficient to produce this ''straight-line rate.'' [32] See 43 FR 21675.

Since this straight-line rate demonstration requires a determination of the emission reductions needed for attainment, the guidance documents requiring linear progress for RFP in nonattainment plans has always been predicated on the existence of a concurrent statutory requirement that the nonattainment plan also demonstrate attainment. These guidance documents, however, provide little help in determining how RFP is to be demonstrated when a nonattainment plan is statutorily allowed *not* to demonstrate attainment, as is the case with certain moderate area PM–10 plans.

Moderate area PM–10 plans demonstrating impracticability do not include a projection of the allowable emissions in the attainment year. Attainment projections for such areas are not required until submittal of the subsequent serious area plan. Thus, for moderate plans demonstrating impracticability, it is not possible to determine the linear rate of reductions required under the RFP guidance for plans demonstrating attainment because the line's end point, the allowable attainment level, is missing. Put simply, EPA's previous interpretation of and guidance for the RFP requirement in the Act do not work in areas demonstrating impracticability. In such a situation, it is necessary and appropriate to amend the previous guidance.[33]

EPA issued preliminary guidance on interpreting the RFP requirement for moderate PM–10 areas demonstrating impracticability in its final approval of the Phoenix moderate area PM–10 plan, noting that the guidance was intended to clarify the confusion created by omissions in the Act and in prior EPA guidance. See 60 FR 18010, 18013 (April 10, 1995). In that notice, EPA stated that RFP was demonstrated by showing that the implementation of all RACM has resulted in ''incremental reductions'' in emissions of PM–10. EPA clarified and further explained this guidance in its proposal to restore the Agency's approval of the Phoenix moderate area plan. See 61 FR 54972, 54973. As quoted above, RFP is defined in section 171(1) as either annual incremental reductions as are required under part D, or such reductions as the Administrator may *reasonably* require ''for the purpose of ensuring attainment of the [NAAQS] by the applicable date.'' In moderate PM–10 area plans demonstrating impracticability, there is no demonstration of attainment, simply a demonstration that, even after the implementation of all RACM, it is impracticable for the area to attain the PM–10 standard by the applicable attainment deadline. Once EPA has determined that all reasonable control measures that are available have been implemented and timely attainment still will not occur, there are no further reductions that it would be reasonable to require ''for the purpose of ensuring attainment'' by the applicable attainment deadline. Thus, the emissions reductions achieved through

[32] This requirement for reductions on a ''straight-line rate'' has never been absolute. EPA has stated that it would accept less than a straight-line rate if the State could show that a lag was necessary to accommodate the time required for compliance. See 43 FR 21675 and 44 FR 20372, 20377 (April 4, 1979). EPA has also noted that in certain situations, such as where there are a limited number of sources contributing to the nonattainment problem, where requiring linear progress reductions in PM–10 emissions to maintain RFP is less appropriate and in such situations an expeditious compliance schedule can be used to demonstrate RFP. See 59 FR 41998, 42015.

[33] Under CAA section 193, guidance issued by EPA prior to the 1990 CAA Amendments remain in effect except to the extent that it is inconsistent with any provision of the revised Act or is revised by the Administrator. As will be seen, EPA has both found that its previous RFP guidance requiring linear emission reductions is inconsistent with the statutory provisions allowing demonstration of impracticability for moderate PM–10 areas and revised that guidance for such areas.

implementation of all RACM, by definition, would satisfy the requirement to demonstrate reasonable further progress in the period before the Act requires a new plan that includes the additional measures needed to produce the net emissions reductions required for attainment.

Moreover, EPA's interpretation is reasonable given the Act's scheme for PM–10 attainment. Among all the Act's numerous nonattainment requirements, the moderate area PM–10 provisions are unique in tolerating a planned failure to demonstrate attainment and deferring the obligation to demonstrate attainment to a later plan. EPA's interpretation of the general RFP requirement in section 172(c)(2), as it applies to moderate PM–10 areas demonstrating impracticability, must not only meet the Act's definition of RFP but must also be consistent with the statutory scheme for PM–10 attainment. For the reasons stated above, EPA believes that its interpretation of the RFP requirement for areas demonstrating impracticability is consistent with this scheme. Requiring RFP demonstrations to show emission reductions in excess of those resulting from the implementation of all RACM would conflict with the CAA section 189(a)(1)(B)(ii) provision for demonstrating impracticability.[34]

Finally, this entire discussion is somewhat academic in the case of this FIP where the expeditious application of RACM not only results in incremental emission reductions below pre-implementation levels, but also in annual incremental reductions for both the 24-hour and annual PM–10 standards. See section IV.D.1.

Comment: In its 1996 comments (which the Center requested be incorporated into its comments on the April 1, 1998 PM–10 FIP proposal), ACLPI argues that EPA wrongly suggests that the Act's RFP mandate disappears after the applicable attainment date has passed and does not reappear until the state submits a new SIP to meet a new attainment deadline. The Center asserts that under this view, a state that is delinquent in meeting an attainment deadline can actually do less to move toward attainment than an area that has yet to miss a deadline. Given that the whole purpose of the RFP mandate is to assure steady progress toward clean air, ACLPI argues that the purpose becomes even more urgent when an area is continuing to violate standards and that EPA's position is comparable to that rejected by the Court in *Delaney* v. *EPA*, 898 F.2d 687 (9th Cir. 1990). In addition, ACLPI argues that the approach proposed by EPA could not be more antithetical to the language and purpose of the CAA and that under such an approach, EPA could approve a SIP that will actually allow air quality to worsen since the SIP need only slow the rate of emissions growth until the attainment deadline but after the attainment deadline, the SIP need not even slow the rate of emissions growth and emissions can grow at any rate. ACLPI asserts that it is inconceivable that Congress intended a result so contrary to the public health goals of the Act, or to the plain meaning of the phrase, ''reasonable further progress.''

Response: As stated above, the RFP mandate in the Act is intended to ensure that nonattainment plans provide for reasonable progress toward attainment by the applicable attainment date, as is clear from the plain language of the RFP definition in section 171(1) of the Act. As is apparent from that language, RFP, as the term is used in the CAA, applies only in the period prior to the applicable attainment date and does not continue in the period after that date.

ACLPI purports to invest in the RFP mandate the solution to all potential problems with implementation plans, from delinquent plans and failure to actually attain the standards, to increasing emissions after attainment dates have passed. This all-encompassing view of the RFP mandate ignores the provisions of the Act that Congress added to specifically address each of these situations: the section 179(a) sanctions and section 110(c) federal plan requirements for addressing delinquent or inadequate plans; the reclassification requirements of sections 181(b)(2), 186(b)(2), and 188(b) (with their accompanying requirements for new plans in sections 182, 187, and 189) and the mandatory rate of progress requirements in sections 187(g) and 189(d) for addressing continuing violations after the serious area attainment date has passed; the requirement for contingency measures in section 172(c)(9) to assure additional emission reductions after an area fails to attain but before a new plan is submitted to prevent emissions growth; and the maintenance plan requirements in section 175(A) to assure limits on emissions growth to prevent violations of the standard in areas redesignated to attainment.[35]

Given that there are other specific CAA provisions that address the hypothetical scenarios ACLPI envisions, there is no basis for invoking the general RFP provision as a gap-filling, all-purpose remedy for them. EPA's interpretation of the section 172(c)(2) RFP requirement as set forth in the FIP is consistent with the statutory purpose of achieving regular emission reductions as needed to assure attainment by the applicable attainment date.

Comment: ACLPI comments that the Act's reclassification scheme does not support EPA's RFP approach because the purpose of reclassification is to prompt adoption of more stringent controls and not an excuse to bring progress to a stop.

Response: EPA does not claim that the reclassification scheme supports its RFP approach. Equally, the reclassification scheme does not support ACLPI's proposition that the RFP requirement should apply after an applicable attainment date. As noted previously, the plain language of the RFP definition clearly indicates that RFP is only required in the period before the applicable attainment date and not after it has passed. As also noted previously, the CAA provision intended to address progress between a lapsed attainment date and the submittal of a revised nonattainment plan with its new RFP demonstration is the contingency measures provision in section 172(c)(9).

Comment: ACLPI claims that EPA's RFP analysis for the proposed FIP is flawed in several other key respects. First, ACLPI asserts that it is based on an emissions inventory that is not complete, current, and accurate, as required by the Act. ACLPI states that the inventory submitted by the state in connection with its 1991/1993 PM SIP revision showed vehicular exhaust as constituting 36 percent of total PM–10 emissions (ADEQ, Final State Implementation Plan Revision, Revised Chapter 9 (Feb. 1994) p. 9–34) and in contrast, the inventory relied on in EPA's current RFP demonstration shows the same sources as amounting to only 8 percent of the inventory and that EPA offers no rational explanation for this glaring disparity. ACLPI notes that the State's prior inventory was based on

[34] EPA's approach is consistent with the rule, long articulated by the Ninth Circuit, that ''language in one section of the statute [is to be interpreted] consistently with the purposes of the entire statute considered as a whole.'' *Adams* v. *Howerton*, 673 F.2d 1036, 1040 (9th Cir.), *cert. denied*, 458 U.S. 1111 (1982). See also *In re Arizona Appetito's Stores, Inc.*, 893 F.2d 216, 219 (9th Cir. 1990) (courts to adopt interpretation that is harmonious with the statute's scheme and general purposes).

[35] In light of the new statutory provisions in the 1990 Clean Air Act Amendments, ACLPI's comment that EPA's position is comparable to that rejected by the Ninth Circuit in *Delaney* is inapposite. In that case, the Court was addressing the consequences of a lapsed attainment deadline in the absence of any related statutory provisions. In the 1990 Amendments, Congress provided specific actions to be undertaken should such a lapse occur.

actual speciated monitoring data from the Phoenix area and that EPA's inventory appears to based on theoretical emission factors and speculation.

Response: EPA based its RFP analysis for the proposed FIP on the 1994 regional emission inventory prepared by MAG (see *1994 Regional PM–10 Emission Inventory for the Maricopa County Nonattainment Area,* Draft Final Report, MAG, May 1997) and additional inventory work prepared for the regional PM–10 modeling (see *Technical Support Document for the Regional PM–10 Modeling in Support of the 1997 Serious Area PM–10 Plan for Maricopa County Nonattainment Area,* Draft, MAG, October 1997). These inventories were prepared following the procedures in EPA guidance, using either EPA emission factors or other appropriate emission factors and Phoenix-specific activity data.

It is not valid to conclude from the mere fact that this inventory differs in its apportionment of sources from the inventory in the 1991/93 PM SIP that the regional 1994 inventory is inherently flawed. Inventories prepared at different times will naturally vary because improved methodologies are developed, new information about sources is collected, control measures are implemented, and emission growth rates vary across categories. All these factors tend to affect the percentage presence of a source category from inventory to inventory. Because it is the nature of inventories to change over time, EPA does not normally require new inventories to be reconciled against previous ones and any differences between them explained.

The inventory in the 1991/93 PM–10 Plan referred to by ACLPI is the regional inventory modified (''normalized'') to reflect a 1989–1990 source apportionment at three urban Phoenix monitors: Central Phoenix, West Phoenix, and South Scottsdale.[36] This source apportionment was performed using Chemical Mass Balance (CMB) modeling and monitored speciated data. As work has been done to evaluate the nature of the PM–10 problem in Phoenix, it has become increasing clear that PM–10 exceedances in the Phoenix area often have highly localized causes. In other words, the sources that contribute substantially to an exceedance are often located close to the exceeding monitor. As a result, any inventory that is developed based on the source apportionment from a given monitor or small set of similar monitors is only truly informative about the relative significance of sources around those monitors rather than about the relative significance of sources in a regional inventory.

Phoenix has a large number of fugitive dust sources such as construction sites, vacant lots, unpaved roads, and agricultural fields. Emissions from these sources need to be included in any regional inventory. However, as noted in EPA's proposed action on the microscale plan, fugitive dust PM–10 has more localized effects than other criteria pollutants because it is emitted near ground level and has relatively sharp spatial concentration gradients as dust settles out with distance from the emitting source. See 62 FR 31025, 31030. Consequently, it would be surprising to see a substantial contribution from fugitive dust sources at urban monitors where there were relatively few of these fugitive dust sources close by. The source apportionment at such monitors is much more likely to be influenced by local sources such as paved road dust and by fine particulate sources, such as vehicle exhaust, which tend to remain suspended in ambient air longer. This is exactly the source apportionment seen at the three urban monitors used to generate the 1991/93 Plan's normalized inventory. As a result, it is not surprising to see that the 1991/93 Plan's normalized inventory skewed toward paved road dust and vehicle exhaust and away from fugitive dust. Basing the regional inventory on the source apportionment at urban monitors, however, will underestimate regional fugitive dust emissions. This underestimation is illustrated in the 1991/93 Plan's normalized inventory in which fugitive dust sources account for only 3 percent of the total regional PM–10 emissions.

Source apportionment at a monitor is a necessary part of preparing a PM–10 attainment demonstration because without a clear understanding of the relative contributions of sources causing an exceedance, it is impossible to know how controls will affect air quality.[37] But in preparing a regional inventory for an area as large and as diverse as Phoenix, with its many fugitive dust sources, source apportionment based on just a few urban monitors is unlikely to result in a regional inventory that correctly accounts for fugitive dust emissions.

Comment: ACLPI also asserts that EPA failed to accurately address growth in PM–10 emissions from vehicular exhaust. ACLPI notes that the Agency's inventory shows on-road exhaust emissions of PM–10 steadily decreasing from 1610 tpy in 1995 to 1037 tpy in 2001, but cites a MAG conformity analysis that shows vehicle exhaust emissions of PM–10 *increasing* to 8,807 tpy (based on 24.13 tpd) by 2001. ACLPI argues that increased emissions are consistent with projected increases in VMT and with the lack of additional controls to limit motor vehicle emissions of PM–10 and that EPA cannot justify reliance on an inventory that shows decreasing motor vehicle emissions when this conflicts with reality.

Response: The MAG conformity analysis is performed using an out-of-date mobile source emissions model, the 1985 Particulate Model. See *Conformity Analysis, MAG Long Range Transportation Plan Summary and 1997 Update [and] MAG 1998–2002 Transportation Improvement Program,* MAG, November 1997, p. 1–21. MAG uses this model in its conformity determinations in order to be consistent with the model used in the State's 1991/93 moderate area plan. In 1994, EPA released the PART5 mobile source model for use in SIPs. As recommended by EPA guidance, the base and projected exhaust emission inventories in the FIP were developed using the PART5 model. See *PM–10 Emission Inventory Requirements,* OAQPS, EPA (EPA–454/R–94–033), September 1994, p. 14. The PART5 model changed the estimates of emissions from on-road motor vehicles. The difference between the conformity and FIP inventories is partly related to this change in emission models.

The difference between the two inventories is also the result of the use of the normalized inventory from the 1991/93 PM–10 Plan in the conformity analysis. Again, MAG uses the normalized inventory to be consistent with the submitted PM–10 SIP. See *Conformity Analysis,* p. 1–20. As discussed in the previous response, this normalized inventory substantially increased the vehicle exhaust portion of the inventory based on the source apportionment at three urban monitors. This normalized inventory does not accurately reflect the contribution of fugitive dust sources to the regional inventory and probably overstates vehicle exhaust emissions.

Because the motor vehicle exhaust inventory in the MAG conformity analysis and the inventory in the FIP

[36] Strictly speaking, this normalized inventory is not an emission inventory at all, but merely the percent source contributions at a monitor multiplied by the total regional inventory as calculated by emission factors and source activity levels.

[37] In the 1991/93 Plan, the primary purpose of the normalized inventory was to evaluate the effects of controls for the impracticability demonstration. See 1991/93 Plan, p. 9–39.

were developed using substantially different methodologies and assumptions, the inventories are not comparable. As a result, it cannot be said that motor vehicle emissions are increasing from 1610 mtpy to 8,807 mtpy as ACLPI claims.[38] The motor vehicle exhaust inventory used in the FIP was based on the EPA's latest emission model and regional estimates of emissions and, as a result, EPA believes that it is the best inventory currently available.

Contrary to ACLPI's assertions, it is not surprising to see decreases in tailpipe PM–10 emissions despite the increases in VMT and the apparent lack of additional new control measures. This decline in emissions despite the substantial increase in VMT is due primarily to fleet turnover that brings cleaner cars into the fleet to replace older, dirtier ones and implementation of control programs such as I/M and clean fuel requirements. Decreasing motor vehicle emissions, in fact, reflects the reality of almost three decades of successful technological controls on motor vehicles.

Comment: ACLPI states that the RFP demonstration does not show annual emission reductions—it only purports to show reductions in the year 2001.

Response: As discussed above, EPA does not believe that annual emission reductions are necessary to demonstrate RFP in areas demonstrating the impracticability of attaining the PM–10 standard. However, EPA has qualitatively shown that this FIP should result in annual emission reductions from the 1998 promulgation until the December 31, 2001 attainment date.

E. Indian Reservations

As discussed in EPA's proposed FIP, there are two Indian reservations (the Salt River Pima-Maricopa Indian Community and the Fort McDowell Mojave-Apache Indian Community) and a portion of a third reservation (the Gila River Indian Community) in the Phoenix PM–10 nonattainment area. The FIP measures do not cover sources on these reservations. See 63 FR 15920, 15941. EPA received comments from the Salt River Pima-Maricopa Indian Community supporting EPA's proposal and reiterating their willingness to work with EPA under the EPA's Tribal Authority Rule which became effective on March 16, 1998.

[38] When projected 2001 emissions are estimated using the same methodology as used in the 1991/93 plan, motor vehicle exhaust PM–10 emissions are projected to decline from 13,410 mtpy in 1989 (1991/93 Plan, p. 9–41, figure converted to mtpy from english tpy) to 8,807 mtpy in 2001 (*Conformity Analysis,* p. 6–3).

V. Administrative Requirements

A. Executive Order (E.O.) 12866

Under Executive Order 12866, 58 FR 51735 (October 4, 1993), the Agency must determine whether the regulatory action is ''significant'' and therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Due to potential novel policy issues this action is considered a significant regulatory action and therefore must be reviewed by OMB. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

B. Regulatory Flexibility Analysis

1. Regulatory Flexibility Act Requirements

Under the Regulatory Flexibility Act (RFA), 5 U.S.C. section 601 et. seq., EPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities unless EPA certifies that the rule will not have a significant economic impact on a substantial number of small entities. 5 U.S.C. 603, 604 and 605(b). Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

For the purposes of this inquiry, as it applies to the two proposed federal measures, the fugitive dust rule and the commitment for the development and implementation of RACM for the agricultural sector, EPA is assuming that the affected or potentially affected sources constitute ''small entities'' as defined by the RFA.

The final federal measures are intended to fill gaps in the Arizona PM–10 SIP for the Phoenix nonattainment area. For non-agricultural fugitive dust sources, while the County has adopted and EPA has approved Rule 310 into the SIP, the County has not made a commitment to provide adequate resources to ensure enforcement of the rule as it applies to the unpaved road, unpaved parking lot and vacant lot source categories.[39] Further, application of Rule 310 to agricultural sources including fields and aprons is affected by the provision in section 102 (incorporating A.R.S. 49–504.4) that states that the rule ''shall not be construed so as to prevent normal farm cultural practices.'' Therefore, applicability of the rule to such sources depends on what dust-generating operation is occurring at the source. In other words, Rule 310 applies to some operations on agricultural fields and aprons and not to others.

2. RFA Analysis

a. Federal Rule for Unpaved Roads, Unpaved Parking Lots, and Vacant Lots. The starting point for EPA's analysis is Maricopa County's Rule 310. Regardless of the County's resources for enforcing the rule with respect to nonagricultural fugitive dust sources, those sources are legally responsible for complying with it. Failure to do so subjects such sources to potential enforcement action by EPA, the State, County and/or citizens. Thus, for the purpose of analyzing whether the proposed FIP rule will have ''a significant economic impact,'' EPA assumes that sources subject to the rule are complying with it. The appropriate inquiry then is whether the terms of EPA's proposed rule would impose a significant economic impact beyond that imposed by the terms of Rule 310.

Section 101 of Rule 310 states that the purpose of the rule is ''[t]o limit the emission of particulate matter into the ambient air from any property, operation or activity that may serve as an open fugitive dust source.'' Further, the provisions of the rule ''apply to any activity, equipment, operation and/or man-made or man-caused condition or practice * * * capable of generating fugitive dust. * * *'' Sections 305, 306, 309 and 312 of the rule contain the regulatory requirements applicable to the following source categories: vehicle use in open areas and vacant parcels, unpaved parking areas, vacant areas, and roadways. These requirements differ to some extent depending on the source category, but generally they mandate the implementation of RACM before certain dust-producing activities can be undertaken. RACM is defined in section 221 as ''[a] technique, practice, or procedure used to prevent or

[39] The County typically only ensures compliance with Rule 310 for these sources on a complaint basis.

minimize the generation, emission, entrainment, suspension and/or airborne transport of fugitive dust.'' As further defined in subsection 221.1, and as pertinent to this analysis, RACM include, but are not limited to: curbing, paving, applying dust suppressants, and/or physically stabilizing with vegetation and gravel.

While subsection 211.1 does not specify which of the listed measures are appropriate for what types of source categories, the general definition of RACM in section 221 together with the list of RACM measures in subsection 211.1 provide a basis for selecting measures which are appropriate for a particular source to prevent or minimize dust emissions, to the extent other provisions of Rule 310 do not specify a particular RACM measure.

EPA's final fugitive dust rule is intended to establish a RACM requirement for unpaved parking lots, unpaved roads and vacant lots that is substantively equivalent to that established for the same sources by the Maricopa County rule. As noted above, the requirements of the County rule differ to some extent depending on the source category; EPA's proposed rule mirrors those differences. The primary difference between the County rule and EPA's final rule is that the EPA rule provides greater specificity and detail regarding which RACM are appropriate for a particular source category for the purpose of preventing or minimizing fugitive dust emissions.[40]

In providing further specificity and detail, EPA's rule does not change the nature of the RACM requirement already applicable to sources covered by County Rule 310. The RACM required to be applied in the final FIP rule are the very measures listed in subsection 211.1 of Rule 310. Beyond that, the RACM specified in the final rule for any particular source category are the appropriate RACM for that source category. What constitutes RACM for the source categories covered by the final FIP rule is relatively straightforward in light of the differences among the source categories, the low technology nature of the potential RACM and other available information. EPA therefore believes that its further specification of the RACM requirements does not change the nature of the RACM requirements already applicable under Maricopa County Rule 310 which is federally enforceable as an approved element of the Arizona SIP.

The only other notable difference between the County rule and the final FIP rule that is relevant to this analysis is paragraph (f) of the proposed FIP rule. Rule 310 contains a recordkeeping requirement for permitted dust-generating activities, but does not contain such a requirement for unpermitted activities, including unpaved parking lots, unpaved roads and vacant lots. Therefore, paragraph (f) of the proposed FIP rule includes a requirement that owners/operators subject to the rule maintain records demonstrating appropriate application of RACM. EPA has determined that the recordkeeping requirements for the source categories covered in the FIP rule will not have a significant economic impact. In many cases, the owner/operator need only retain a purchase receipt or contractor work order for the control(s) implemented. When chemical stabilization is applied as a control measure, more specific information regarding the product being used is required. However, this information (e.g., type of product, label instructions) is readily available from vendors or easily determined at the time of application. EPA expects that the information the final FIP rule requires sources to keep will be retained by source owners or operators in any event in the normal course of business (e.g., for tax and accounting purposes).

EPA's final fugitive dust rule incorporates a number of changes made in response to the public comments that EPA received on the FIP proposal. Those changes are summarized and discussed in section IV.B.2. above and in the TSD. The net result of the substantive changes is to provide sources with greater flexibility than provided in the FIP proposal and Rule 310. For example, the final FIP rule includes an increase from 0.10 acre to 0.50 acre in the de minimis disturbed surface area level for vacant lots; an increase from 150 to 250 ADT in the exemption level for unpaved roads; a new de minimis use level for unpaved parking lots; and the elimination of the DCP requirement for weed abatement. As a result of these and other changes, the requirements of the final FIP rule are effectively less stringent than both the rule as proposed and Rule 310. Thus the costs of compliance with the FIP rule are expected to be less than the proposed FIP rule and Rule 310.

As the above discussion of the RACM requirements of the two rules makes clear, even though the final FIP rule differs from Rule 310 in that it is more specific and detailed, there should be no additional burden on regulated sources because they are already legally required to apply RACM under the County rule, and the RACM required by the final FIP rule are substantively identical to that required under Rule 310.[41]

Moreover, EPA believes that the additional recordkeeping requirement in the FIP rule will not have a significant economic impact on the affected sources. As stated above, and in section V.A.7.b. of the proposed rulemaking, the information required to be retained is minimal and is therefore not expected to entail any appreciable economic impact.

b. Federal Commitment for Agriculture. EPA's final measure to control fugitive dust from agricultural fields and aprons consists of an enforceable commitment to propose and finalize adoption of RACM for those sources in September 1999 and April 2000, respectively. Prior to this formal rulemaking, EPA intends to convene a stakeholder process to develop the specific RACM that will ultimately be proposed for adoption. As discussed in detail in section V.A.7.a. of the proposed rulemaking, EPA intends the RACM to take the form of BMPs. During the BMP development process, EPA will investigate a myriad of factors, including the appropriate coverage of potential BMPs, regional climate, soil and crop types, and growing seasons. Because this aspect of today's action neither imposes specific regulatory requirements, nor obligates EPA to propose requirements necessarily applicable to small entities, it will not, by itself, have a significant economic impact on a substantial number of small entities. When EPA proposes specific RACM in the September 1999

[40] EPA believes that it is reasonable and appropriate for its rule to be more specific and detailed than the County rule. As a result of the State's failure to commit sufficient enforcement resources for its rule, EPA is having to fulfill the role of primary enforcer of the RACM requirement for the sources described above. EPA Region 9 will be responsible for fulfilling that role, and it is located in San Francisco. Given the greater difficulties that Region 9 will inevitably face in enforcing the RACM requirement in Arizona, it is reasonable for EPA to design a RACM rule that ensures EPA enforcement of the rule will be practicable. As described above, the County rule provides a general basis for determining which RACM should be applied to which source categories. But its lack of specificity makes it more likely that the agency enforcing the rule will routinely be called upon to address which RACM should be applied to which source categories. By addressing this issue in the FIP rule itself, EPA hopes to reduce the extent to which sources and others may have to consult with the Agency to determine which RACM are appropriate for a particular source or source category.

[41] Since, by its terms, the requirements of Rule 310 are so broad, the general effect of the greater specificity and detail is that EPA's FIP rule, in its entirety, is somewhat narrower in scope than the County's rule as it relates to unpaved roads, unpaved parking lots and vacant lots. For example, section 312 of Rule 310 regulates users of unpaved roads, while EPA's rule regulates only owners and operators; and Rule 310 does not exempt any unpaved roads, while EPA's rule includes a low ADT exemption.

rulemaking, it will either undertake a RFA analysis or certify the proposed rule, as appropriate.

c. *Certification.* EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. EPA has also determined that this rule will not have a significant economic impact on a substantial number of small entities.

C. Unfunded Mandates Reform Act (UMRA)

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector.

Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, when EPA promulgates ''any general notice of proposed rulemaking that is likely to result in promulgation of any rule that includes any Federal mandate that may result in the expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more'' in any one year. A ''Federal mandate'' is defined, under section 101 of UMRA, as a provision that ''would impose an enforceable duty'' upon the private sector or State, local, or tribal governments'', with certain exceptions not here relevant.

Under section 203 of UMRA, EPA must develop a small government agency plan before EPA ''establish[es] any regulatory requirements that might significantly or uniquely affect small governments'.

Under section 204 of UMRA, EPA is required to develop a process to facilitate input by elected officers of State, local, and tribal governments for EPA's ''regulatory proposals'' that contain significant Federal intergovernmental mandates.

Under section 205 of UMRA, before EPA promulgates ''any rule for which a written statement is required under [UMRA section] 202'', EPA must identify and consider a reasonable number of regulatory alternatives and either adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule, or explain why a different alternative was selected.

As explained above, while the final federal fugitive dust rule may impose an enforceable duty on State or local governments, the resulting expenditures by those entities are expected to be minimal. Tribal governments are excluded from the coverage of this rule. In addition, there will be no current enforceable duties imposed on, or expenditures by, State, local or tribal governments or the private sector as a result of the federal commitment regarding the agricultural sector. Therefore, expenditures by State, local and tribal governments, in the aggregate, or by the private sector, will be well under $100 million per year as a result of today's federal measures. Consequently, sections 202, 204 and 205 of UMRA do not apply to today's final action. Therefore, EPA is not required and has not taken any actions to meet the requirements of these sections of UMRA.

With respect to section 203 of UMRA, EPA has concluded that its final actions include no regulatory requirements that will significantly or uniquely affect small governments. As discussed in detail in IV.B.2. above, EPA believes that the RACM requirements of the final FIP rule for vacant lots, unpaved parking lots and unpaved roads are already legally required under Maricopa County Rule 310 which is federally enforceable as an approved element of the Arizona SIP. Moreover, the requirements of EPA's final FIP rule, while more specific and detailed, are substantively identical to those required under Rule 310. Therefore, there should be no additional burden on regulated sources, including small governments. With respect to EPA's enforceable commitment for the agricultural sector, such a commitment neither imposes specific regulatory requirements, nor obligates EPA to propose requirements necessarily applicable to small entities. Thus, neither EPA's fugitive dust rule nor its commitment for the agricultural sector will significantly or uniquely affect small governments. Consequently, EPA has not developed a small government plan. Nevertheless, prior to EPA's proposed action, the Agency held numerous meetings with potentially affected representatives of the State and local governments to discuss the requirements of, and receive input regarding, the proposed federal fugitive dust rule and commitment for the agricultural sector.

D. Paperwork Reduction Act

The information collection requirements in this final rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1855.02) and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., S.W.; Washington, DC 20460 or by calling (202) 260–2740.

EPA's final FIP rule for unpaved parking lots, unpaved roads and vacant lots includes recordkeeping and reporting requirements which will help ensure source compliance with the rule's control requirements. In general, EPA believes the recordkeeping and reporting requirements are the minimal requirements necessary to demonstrate compliance. The requirements include:

—Owners/operators of unpaved roads must keep a record which indicates the date and type of control (i.e., paving, stabilizing, or applying gravel) applied to the road.

—Owners/operators of unpaved parking lots must keep a record which indicates the date and type of control (i.e., paving, stabilizing, applying gravel, or temporary stabilization for lots used less than 35 days per year) applied to the unpaved parking lot.

—Owners/operators of vacant lots with disturbed surfaces must keep a record which indicates the date and type of control (i.e., applying ground cover vegetation, stabilizing, restoring to natural undisturbed state, or applying gravel) applied to the vacant lot.

—Owners/operators of vacant lots with motor vehicle disturbances must keep a record which indicates the date and type of control applied to the vacant lot.

—Agency surveys will be conducted by the EPA or other appropriate agency to determine the effectiveness of the rule in the Phoenix area.

The estimated recordkeeping and reporting burden for the proposed FIP rule was about 9716 hours and the estimated labor cost was about $173,632. However, since the final FIP rule no longer requires the submittal of dust control plans for weed abatement activity, the estimated recordkeeping and reporting burden for the final FIP rule is about 5297 hours and the estimated labor cost is about $93,455. No capital/start-up costs or operational and maintenance costs are anticipated. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and

requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control number for EPA's regulations is listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques, to the Director, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., S.W.; Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., N.W. Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Comments are requested by September 2, 1998. Include the ICR number in any correspondence.

E. E.O. 13045: Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045, entitled ''Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885 (April 23, 1997)), applies to any rule that EPA determines (1) ''economically significant'' as defined under E.O. 12866 and (2) the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children; and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

Today's final action promulgating a moderate area PM–10 federal implementation plan for the Phoenix area is not subject to E.O. 13045 because it is not an economically significant regulatory action as defined by E.O. and because it does not involve decisions on environmental health risks or safety risks that may disproportionately affect children.

F. Submission to Congress and the General Accounting Office

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a ''major'' rule as defined by 5 U.S.C. 804(2).

G. Petitions for Judicial Review

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by October 2, 1998. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2)).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, Particulate matter, Reporting and recordkeeping requirements.

Dated: July 17, 1998.

Carol M. Browner,

Administrator.

For the reasons set forth in the preamble, part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart D—Arizona

2. Section 52.123 is amended by adding paragraph (h) to read as follows:

§ 52.123 Approval Status.

* * * * *

(h) Pursuant to the federal planning authority in section 110(c) of the Clean Air Act, the Administrator finds that the applicable implementation plan for the Maricopa County PM–10 nonattainment area provides for the implementation of reasonably available control measures as required by section 189(a)(1)(C) and demonstrates attainment by the applicable attainment date as required and allowed by sections 172(c)(2) and 189(a)(1)(B).

3. Section 52.124 is amended by adding paragraph (c) to read as follows:

§ 52.124 Part D disapproval.

* * * * *

(c) The Administrator disapproves the attainment demonstration for the annual PM–10 national ambient air quality standard and the provisions for implementation of reasonably available control measures for the annual PM–10 national ambient air quality standard in the *MAG 1991 Particulate Plan for PM–10 for the Maricopa County Area and 1993 Revisions* (July 1993) submitted by the Arizona Department of Environmental Quality on August 11, 1993 as revised by the submittal of a Revised Chapter 9 on March 3, 1994 because they do not meet the requirements of sections 189(a)(1)(B) and 189(a)(1)(C) of Part D of title I of the Clean Air Act.

4. Subpart D is amended by adding §§ 52.127 and 52.128 to read as follows:

§ 52.127 Commitment to promulgate and implement reasonably available control measures for the agricultural fields and aprons.

The Administrator shall promulgate and implement reasonably available control measures (RACM) pursuant to section 189(a)(1)(C) of the Clean Air Act for agricultural fields and aprons in the Maricopa County (Phoenix) PM–10 nonattainment area according to the following schedule: by no later than September, 1999, the Administrator shall sign a Notice of Proposed Rulemaking; by no later than April, 2000, the Administrator shall sign a Notice of Final Rulemaking; and by no later than June, 2000, EPA shall begin implementing the final RACM.

§ 52.128 Rule for unpaved parking lots, unpaved roads and vacant lots.

(a) *General.* (1) *Purpose.* The purpose of this section is to limit the emissions of particulate matter into the ambient air from human activity on unpaved parking lots, unpaved roads and vacant lots.

(2) *Applicability.* The provisions of this section shall apply to owners/operators of unpaved roads, unpaved parking lots and vacant lots and responsible parties for weed abatement on vacant lots in the Phoenix PM–10 nonattainment area. This section does not apply to unpaved roads, unpaved parking lots or vacant lots located on an industrial facility, construction, or earth-moving site that has an approved

permit issued by Maricopa County Environmental Services Division under Rule 200, Section 305, Rule 210 or Rule 220 containing a Dust Control Plan approved under Rule 310 covering all unpaved parking lots, unpaved roads and vacant lots. This section does not apply to the two Indian Reservations (the Salt River Pima-Maricopa Indian Community and the Fort McDowell Mojave-Apache Indian Community) and a portion of a third reservation (the Gila River Indian Community) in the Phoenix PM–10 nonattainment area. Nothing in this definition shall preclude applicability of this section to vacant lots with disturbed surface areas due to construction, earth-moving, weed abatement or other dust generating operations which have been terminated for over eight months.

(3) The test methods described in Appendix A of this section shall be used when testing is necessary to determine whether a surface has been stabilized as defined in paragraph (b)(16) of this section.

(b) *Definitions.* (1) *Average daily trips (ADT)*—the average number of vehicles that cross a given surface during a specified 24-hour time period as determined by the Institute of Transportation Engineers Trip Generation Report (6th edition, 1997) or tube counts.

(2) *Chemical/organic stabilizer*—Any non-toxic chemical or organic dust suppressant other than water which meets any specifications, criteria, or tests required by any federal, state, or local water agency and is not prohibited for use by any applicable law, rule or regulation.

(3) *Disturbed surface area*—Any portion of the earth's surface, or materials placed thereon, which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural condition, thereby increasing the potential for emission of fugitive dust.

(4) *Dust suppressants*—Water, hygroscopic materials, solution of water and chemical surfactant, foam, or non-toxic chemical/ organic stabilizers not prohibited for use by any applicable law, rule or regulation, as a treatment material to reduce fugitive dust emissions.

(5) *EPA*—United States Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, California 94105.

(6) *Fugitive dust*—the particulate matter entrained in the ambient air which is caused from man-made and natural activities such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. This excludes particulate matter emitted directly from the exhaust of motor vehicles and other internal combustion engines, from portable brazing, soldering, or welding equipment, and from piledrivers.

(7) *Lot*—A parcel of land identified on a final or parcel map recorded in the office of the Maricopa County recorder with a separate and distinct number or letter.

(8) *Low use unpaved parking lot*—A lot on which vehicles are parked no more than thirty-five (35) days a year, excluding days where the exemption in paragraph (c)(2) of this section applies.

(9) *Motor vehicle*—A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as, but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.

(10) *Off-road motor vehicle*—any wheeled vehicle which is used off paved roadways and includes but is not limited to the following:

(i) Any motor cycle or motor-driven cycle;

(ii) Any motor vehicle commonly referred to as a sand buggy, dune buggy, or all terrain vehicle.

(11) *Owner/operator*—any person who owns, leases, operates, controls, maintains or supervises a fugitive dust source subject to the requirements of this section.

(12) *Paving*—Applying asphalt, recycled asphalt, concrete, or asphaltic concrete to a roadway surface.

(13) *Phoenix PM–10 nonattainment area*—such area as defined in 40 CFR 81.303, excluding Apache Junction.

(14) *PM–10*—Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by reference or equivalent methods that meet the requirements specified for PM–10 in 40 CFR Part 50, Appendix J.

(15) *Reasonably available control measures (RACM)*—Techniques used to prevent the emission and/or airborne transport of fugitive dust and dirt.

(16) *Stabilized surface*—(i) Any unpaved road or unpaved parking lot surface in which any fugitive dust plume emanating from vehicular movement does not exceed 20 percent opacity as determined in section I. of Appendix A of this section.

(ii) Any vacant lot surface with:

(A) A visible crust which is greater than 0.6 centimeters (cm) thick and is not easily crumbled between the fingers as determined in section II.1. of Appendix A of this section;

(B) A threshold friction velocity (TFV), corrected for non-erodible elements, of 100 cm/second or higher as determined in section II.2 of Appendix A of this section;

(C) Flat vegetation cover equal to at least 50 percent as determined in section II. 3. of Appendix A of this section;

(D) Standing vegetation cover equal to or greater than 30 percent as determined in section II. 4. of Appendix A of this section; or

(E) Standing vegetation cover equal to or greater than 10 percent as determined in section II.4. of Appendix A of this section where threshold friction velocity, corrected for non-erodible elements, as determined in section II. 2 of Appendix A of this section is equal to or greater than 43 cm/second.

(17) *Unpaved Parking Lot*—A privately or publicly owned or operated area utilized for parking vehicles that is not paved and is not a Low Use Unpaved Parking Lot.

(18) *Unpaved Road*—Any road, equipment path, or driveway that is not paved which is open to public access and owned/operated by any federal, state, county, municipal or other governmental or quasi-governmental agencies.

(19) *Urban or Suburban Open Area*—An unsubdivided or undeveloped tract of land adjoining a residential, industrial or commercial area, located on public or private property.

(20) *Vacant Lot*—A subdivided residential, industrial, institutional, governmental or commercial lot which contains no approved or permitted buildings or structures of a temporary or permanent nature.

(c) *Exemptions.* The following requirements in paragraph (d) of this section do not apply:

(1) In paragraphs (d)(1) and (d)(3)(iii) of this section: Any unpaved parking lot or vacant lot 5,000 square feet or less.

(2) In paragraph (d)(1) of this section: Any unpaved parking lot on any day in which ten (10) or fewer vehicles enter.

(3) In paragraphs (d)(3)(i) and (d)(3)(ii) of this section: Any vacant lot with less than 0.50 acre (21,780 square feet) of disturbed surface area(s).

(4) In paragraph (d) of this section: Non-routine or emergency maintenance of flood control channels and water retention basins.

(5) In paragraph (d) of this section: Vehicle test and development facilities and operations when dust is required to test and validate design integrity, product quality and/or commercial acceptance. Such facilities and

operations shall be exempted from the provisions of this section only if such testing is not feasible within enclosed facilities.

(6) In paragraph (d)(3)(i) of this section: Weed abatement operations performed on any vacant lot or property under the order of a governing agency for the control of a potential fire hazard or otherwise unhealthy condition provided that mowing, cutting, or another similar process is used to maintain weed stubble at least three (3) inches above the soil surface. This includes the application of herbicides provided that the clean-up of any debris does not disturb the soil surface.

(7) In paragraph (d)(3)(i) of this section: Weed abatement operations that receive an approved Earth Moving permit under Maricopa County Rule 200, Section 305 (adopted 11/15/93).

(d) *Requirements.* (1) *Unpaved parking lots.*

(i) Any owners/operators of an unpaved parking lot shall implement one of the following RACM on any surface area(s) of the lot on which vehicles enter and park.

(A) Pave; or

(B) Apply chemical/organic stabilizers in sufficient concentration and frequency to maintain a stabilized surface; or

(C) Apply and maintain surface gravel uniformly such that the surface is stabilized.

(ii) Any owners/operators of a Low Use Unpaved Parking Lot as defined in paragraph (b)(8) of this section shall implement one of the RACM under paragraph (d)(1)(i) of this section on any day(s) in which over 100 vehicles enter the lot, such that the surface area(s) on which vehicles enter and park is/are stabilized throughout the duration of time that vehicles are parked.

(2) *Unpaved roads.* Any owners/operators of existing unpaved roads with ADT volumes of 250 vehicles or greater shall implement one of the following RACM along the entire surface of the road or road segment that is located within the Phoenix non-attainment area by June 10, 2000:

(i) Pave; or

(ii) Apply chemical/organic stabilizers in sufficient concentration and frequency to maintain a stabilized surface; or

(iii) Apply and maintain surface gravel uniformly such that the surface is stabilized.

(3) *Vacant lots.* The following provisions shall be implemented as applicable.

(i) *Weed abatement.* No person shall remove vegetation from any vacant lot by blading, disking, plowing under or any other means without implementing all of the following RACM to prevent or minimize fugitive dust.

(A) Apply a dust suppressant(s) to the total surface area subject to disturbance immediately prior to or during the weed abatement.

(B) Prevent or eliminate material track-out onto paved surfaces and access points adjoining paved surfaces.

(C) Apply a dust suppressant(s), gravel, compaction or alternative control measure immediately following weed abatement to the entire disturbed surface area such that the surface is stabilized.

(ii) *Disturbed surfaces.* Any owners/operators of an urban or suburban open area vacant lot of which any portion has a disturbed surface area(s) that remain(s) unoccupied, unused, vacant or undeveloped for more than fifteen (15) calendar days shall implement one of the following RACM within sixty (60) calendar days following the disturbance.

(A) Establish ground cover vegetation on all disturbed surface areas in sufficient quantity to maintain a stabilized surface; or

(B) Apply a dust suppressant(s) to all disturbed surface areas in sufficient quantity and frequency to maintain a stabilized surface; or

(C) Restore to a natural state, i.e. as existing in or produced by nature without cultivation or artificial influence, such that all disturbed surface areas are stabilized; or

(D) Apply and maintain surface gravel uniformly such that all disturbed surface areas are stabilized.

(iii) *Motor vehicle disturbances.* Any owners/operators of an urban or suburban open area vacant lot of which any portion has a disturbed surface area due to motor vehicle or off-road motor vehicle use or parking, notwithstanding weed abatement operations or use or parking by the owner(s), shall implement one of the following RACM within 60 calendar days following the initial determination of disturbance.

(A) Prevent motor vehicle and off-road motor vehicle trespass/parking by applying fencing, shrubs, trees, barriers or other effective measures; or

(B) Apply and maintain surface gravel or chemical/organic stabilizer uniformly such that all disturbed surface areas are stabilized.

(4) *Alternative control measures.* For sources subject to requirements in paragraphs (d)(1), (d)(2), (d)(3)(ii) and (d)(3)(iii) of this section: As an alternative to compliance, owners/operators may use any other alternative control measures approved by EPA pursuant to paragraphs (e)(1) and (e)(2) of this section as equivalent to the methods specified in paragraph (d) of this section.

(5) *Implementation date of RACM.* All of the requirements in paragraph (d) of this section shall be effective eight (8) months from September 2, 1998. For requirements in paragraph (d)(3)(ii) and (d)(3)(iii) of this section, RACM shall be implemented within eight (8) months from September 2, 1998, or within 60 calendar days following the disturbance, whichever is later.

(e) *Administrative requirements.* (1) Proposed alternative control measures for sources subject to paragraph (d)(2) of this section must be submitted to EPA for approval within one year from September 2, 1998. Proposed alternative control measures for sources subject to paragraph (d)(1) of this section must be submitted to EPA for approval within 90 calendar days prior to the required RACM implementation date as specified in this section. Proposed alternative control measures for sources subject to paragraphs (d)(3)(ii) and (d)(3)(iii) of this section must be submitted to EPA for approval within 90 calendar days prior to the required RACM implementation date as specified in this section or within 60 calendar days following the initial determination of disturbance, whichever is later.

(2) Upon receipt of an alternative control measure, EPA shall provide written notice within 30 calendar days to the owner/operator approving or disapproving the alternative control measure. Should EPA not provide written notice of approval or disapproval within the above deadline, the owner/operator shall assume that the alternative control measure is approved. Upon receiving notice of EPA approval, the owner/operator shall implement the alternative control measure according to the timeframe established in this section unless otherwise specified by EPA. Upon receiving notice of EPA disapproval of the alternative control measure, the owner/operator shall implement RACM according to the specifications and timeframe established in this section. For sources submitting an alternative control measure under paragraphs (d)(3)(ii) or (d)(3)(iii) of this section, owners/operators shall implement the alternative control measure if approved by EPA within 60 calendar days upon receiving written notice, or, upon disapproval of the alternative control measure, implement RACM as specified in this section within 60 calendar days upon receiving written notice.

(f) *Monitoring and records.* (1) Any owners/operators that are subject to the provisions of this section shall compile and retain records that provide evidence

of control measure application, indicating the type of treatment or measure, extent of coverage and date applied. For control measures involving chemical/organic stabilization, records shall also indicate the type of product applied, vendor name, label instructions for approved usage, and the method, frequency, concentration and quantity of application.

(2) Copies of control measure records and dust control plans along with supporting documentation shall be retained for at least three years.

(3) Agency surveys. (i) EPA or other appropriate entity shall conduct a survey of the number and size (or length) of unpaved roads, unpaved parking lots, and vacant lots subject to the provisions of this rule located within the Phoenix PM–10 nonattainment area beginning no later than 365 days from September 2, 1998.

(ii) EPA or other appropriate entity shall conduct a survey at least every three years within the Phoenix PM–10 nonattainment area beginning no later than 365 days from September 2, 1998, which includes:

(A) An estimate of the percentage of unpaved roads, unpaved parking lots, and vacant lots subject to this rule to which RACM as required in this section have been applied; and

(B) A description of the most frequently applied RACM and estimates of their control effectiveness.

Appendix A to § 52.128 Test Methods To Determine Whether a Surface Is Stabilized

I. Unpaved Roads and Unpaved Parking Lots

Conduct opacity observations in accordance with Reference Method 9 (40 CFR Part 60, appendix A) and Methods 203A and 203C of this appendix, with opacity readings taken at five second observation intervals and two consecutive readings per plume beginning with the first reading at zero seconds, in accordance with Method 203C, sections 2.3.2. and 2.4.2 of this appendix. Conduct visible opacity tests only on dry unpaved surfaces (i.e. when the surface is not damp to the touch) and on days when average wind speeds do not exceed 15 miles per hour (mph).

Method 203A—Visual Determination of Opacity of Emissions From Stationary Sources for Time-Arranged Regulations

Method 203A is virtually identical to EPA's Method 9 of 40 CFR part 60, appendix A except for the data-reduction procedures, which provide for averaging times other than 6 minutes. That is, using Method 203A with a 6-minute averaging time would be the same as following EPA Method 9. Additionally, Method 203A provides procedures for fugitive dust applications. The certification procedures provided in section 3 are virtually identical to Method 9 and are provided here, in full, for clarity and convenience.

1. Applicability and Principle

1.1 Applicability. This method is applicable for the determination of the opacity of emissions from sources of visible emissions for time-averaged regulations. A time-averaged regulation is any regulation that requires averaging visible emission data to determine the opacity of visible emissions over a specific time period.

1.2 Principle. The opacity of emissions from sources of visible emissions is determined visually by an observer qualified according to the procedures of section 3.

2. Procedures

An observer qualified in accordance with section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

2.1 Procedures for Emissions from Stationary Sources. These procedures are not applicable to this section.

2.2 Procedures for Fugitive Process Dust Emissions. These procedures are applicable for the determination of the opacity of fugitive emissions by a qualified observer. The qualified field observer should do the following:

2.2.1 Position. Stand at a position at least 5 meters from the fugitive dust source in order to provide a clear view of the emissions with the sun oriented in the 140-degree sector to the back. Consistent as much as possible with maintaining the above requirements, make opacity observations from a position such that the line of vision is approximately perpendicular to the plume and wind direction. As much as possible, if multiple plumes are involved, do not include more than one plume in the line of sight at one time.

2.2.2 Field Records. Record the name of the plant or site, fugitive source location, source type [pile, stack industrial process unit, incinerator, open burning operation activity, material handling (transfer, loading, sorting, etc.)], method of control used, if any, observer's name, certification data and affiliation, and a sketch of the observer's position relative to the fugitive source. Also, record the time, estimated distance to the fugitive source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer's position relative to the fugitive source, and color of the plume and type of background on the visible emission observation form when opacity readings are initiated and completed.

2.2.3 Observations. Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of vision. For roads, storage piles, and parking lots, make opacity observations approximately 1 meter above the surface from which the plume is generated. For other fugitive sources, make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. For intermittent sources, the initial observation should begin immediately after a plume has been created above the surface involved. Do not look continuously at the plume but, instead, observe the plume momentarily at 15-second intervals.

2.3 Recording Observations. Record the opacity observations to the nearest 5 percent every 15 seconds on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a 15-second period.

2.4 Data Reduction for Time-Averaged Regulations. A set of observations is composed of an appropriate number of consecutive observations determined by the averaging time specified. Divide the recorded observations into sets of appropriate time lengths for the specified averaging time. Sets must consist of consecutive observations; however, observations immediately preceding and following interrupted observations shall be deemed consecutive. Sets need not be consecutive in time and in no case shall two sets overlap, resulting in multiple violations. For each set of observations, calculate the appropriate average opacity.

3. Qualification and Testing

3.1 Certification Requirements. To receive certification as a qualified observer, a candidate must be tested and demonstrate the ability to assign opacity readings in 5 percent increments to 25 different black plumes and 25 different white plumes, with an error not to exceed 15 percent opacity on any one reading and an average error not to exceed 7.5 percent opacity in each category. Candidates shall be tested according to the procedures described in paragraph 3.2. Any smoke generator used pursuant to paragraph 3.2 shall be equipped with a smoke meter which meets the requirements of paragraph 3.3. Certification tests that do not meet the requirements of paragraphs 3.2 and 3.3 are not valid.

The certification shall be valid for a period of 6 months, and after each 6-month period, the qualification procedures must be repeated by an observer in order to retain certification.

3.2 Certification Procedure. The certification test consists of showing the candidate a complete run of 50 plumes, 25 black plumes and 25 white plumes, generated by a smoke generator. Plumes shall be presented in random order within each set of 25 black and 25 white plumes. The candidate assigns an opacity value to each plume and records the observation on a suitable form. At the completion of each run of 50 readings, the score of the candidate is determined. If a candidate fails to qualify, the complete run of 50 readings must be repeated in any retest. The smoke test may be administered as part of a smoke school or training program, and may be preceded by training or familiarization runs of the smoke generator during which candidates are shown black and white plumes of known opacity.

3.3 Smoke Generator Specifications. Any smoke generator used for the purpose of paragraph 3.2 shall be equipped with a smoke meter installed to measure opacity across the diameter of the smoke generator stack. The smoke meter output shall display in-stack opacity, based upon a path length equal to the stack exit diameter on a full 0 to 100 percent chart recorder scale. The smoke meter optical design and performance shall meet the specifications shown in Table A of method 203C. The smoke meter shall be calibrated as prescribed in paragraph 3.3.1 prior to conducting each smoke reading test.

At the completion of each test, the zero and span drift shall be checked, and if the drift exceeds ±1 percent opacity, the condition shall be corrected prior to conducting any subsequent test runs. The smoke meter shall be demonstrated at the time of installation to meet the specifications listed in Table A of method 203C. This demonstration shall be repeated following any subsequent repair or replacement of the photocell or associated electronic circuitry including the chart recorder or output meter, or every 6 months, whichever occurs first.

3.3.1 Calibration. The smoke meter is calibrated after allowing a minimum of 30 minutes warm-up by alternately producing simulated opacity of 0 percent and 100 percent. When stable response at 0 percent or 100 percent is noted, the smoke meter is adjusted to produce an output of 0 percent or 100 percent, as appropriate. This calibration shall be repeated until stable 0 percent and 100 percent readings are produced without adjustment. Simulated 0 percent and 100 percent opacity values may be produced by alternately switching the power to the light source on and off while the smoke generator is not producing smoke.

3.3.2 Smoke Meter Evaluation. The smoke meter design and performance are to be evaluated as follows:

3.3.2.1 Light Source. Verify from manufacturer's data and from voltage measurements made at the lamp, as installed, that the lamp is operated within ±5 percent of the nominal rated voltage.

3.3.2.2 Spectral Response of Photocell. Verify from manufacturer's data that the photocell has a photopic response; i.e., the spectral sensitivity of the cell shall closely approximate the standard spectral-luminosity curve for photopic vision which is referenced in (b) of Table A of method 203C.

3.3.2.3 Angle of View. Check construction geometry to ensure that the total angle of view of the smoke plume, as seen by the photocell, does not exceed 15 degrees. Calculate the total angle of view as follows:

$\Phi_v = 2 \tan^{-1} d/2L$,

Where:

Φ_v = total angle of view;
d = the photocell diameter + the diameter of the limiting aperture; and
L = distance from the photocell to the limiting aperture.

The limiting aperture is the point in the path between the photocell and the smoke plume where the angle of view is most restricted. In smoke generator smoke meters, this is normally an orifice plate.

3.3.2.4 Angle of Projection. Check construction geometry to ensure that the total angle of projection of the lamp on the smoke plume does not exceed 15 degrees. Calculate the total angle of projection as follows:

$\Phi_p = 2 \tan^{-1} d/2L$

Where:

Φ_p = total angle of projection;
d = the sum of the length of the lamp filament + the diameter of the limiting aperture; and
L = the distance from the lamp to the limiting aperture.

3.3.2.5 Calibration Error. Using neutral-density filters of known opacity, check the error between the actual response and the theoretical linear response of the smoke meter. This check is accomplished by first calibrating the smoke meter according to 3.3.1 and then inserting a series of three neutral-density filters of nominal opacity of 20, 50, and 75 percent in the smoke meter path length. Use filters calibrated within ±2 percent. Care should be taken when inserting the filters to prevent stray light from affecting the meter. Make a total of five nonconsecutive readings for each filter. The maximum opacity error on any one reading shall be ±3 percent.

3.3.2.6 Zero and Span Drift. Determine the zero and span drift by calibrating and operating the smoke generator in a normal manner over a 1-hour period. The drift is measured by checking the zero and span at the end of this period.

3.3.2.7 Response Time. Determine the response time by producing the series of five simulated 0 percent and 100 percent opacity values and observing the time required to reach stable response. Opacity values of 0 percent and 100 percent may be simulated by alternately switching the power to the light source off and on while the smoke generator is not operating.

4. References

1. U. S. Environmental Protection Agency. Standards of Performance for New Stationary Sources; appendix A; Method 9 for Visual Determination of the Opacity of Emissions from Stationary Sources. Final Rule. 39 FR 219. Washington, DC. U. S. Government Printing Office. November 12, 1974.
2. Office of Air and Radiation. ''Quality Assurance Guideline for Visible Emission Training Programs.'' EPA–600/S4–83–011. Quality Assurance Division. Research Triangle Park, N.C. May 1982.
3. ''Method 9—Visible Determination of the Opacity of Emissions from Stationary Sources.'' February 1984. Quality Assurance Handbook for Air Pollution Measurement Systems. Volume III, section 3.1.2. Stationary Source Specific Methods. EPA–600–4–77–027b. August 1977. Office of Research and Development Publications, 26 West Clair Street, Cincinnati, OH.
4. Office of Air Quality Planning and Standards. ''Opacity Error for Averaging and Nonaveraging Data Reduction and Reporting Techniques.'' Final Report-SR–1–6–85. Emission Measurement Branch, Research Triangle Park, N.C. June 1985.
5. The U. S. Environmental Protection Agency. Preparation, Adoption, and Submittal of State Implementation Plans. Methods for Measurement of PM_{10} Emissions from Stationary Sources. Final Rule. **Federal Register**. Washington, DC. U. S. Government Printing Office. Volumes 55. No. 74. pps. 14246–14279. April 17, 1990.

Method 203C—Visual Determination of Opacity of Emissions From Stationary Sources for Instantaneous Limitation Regulations

Method 203C is virtually identical to EPA's Method 9 of appendix A to 40 CFR part 60, except for the data-reduction procedures which have been modified for application to instantaneous limitation regulations. Additionally, Method 203C provides procedures for fugitive dust applications which were unavailable when Method 9 was promulgated. The certification procedures in section 3 are identical to Method 9. These certification procedures are provided in Method 203A as well, and, therefore, have not been repeated in this method.

1. Applicability and Principle

1.1 Applicability. This method is applicable for the determination of the opacity of emissions from sources of visible emissions for instantaneous limitations. An instantaneous limitation regulation is an opacity limit which is never to be exceeded.

1.2 Principle. The opacity of emissions from sources of visible emissions is determined visually by a qualified observer.

2. Procedures

The observer qualified in accordance with section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

2.1 Procedures for Emissions From Stationary Sources. Same as 2.1, Method 203A.

2.1.1 Position. Same as 2.1.1, Method 203A.

2.1.2 Field Records. Same as 2.1.2, Method 203A.

2.1.3 Observations. Make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present.

Do not look continuously at the plume. Instead, observe the plume momentarily at the interval specified in the subject regulation. Unless otherwise specified, a 15-second observation interval is assumed.

2.1.3.1 Attached Steam Plumes. Same as 2.1.3.1, Method 203A.

2.1.3.2 Detached Steam Plumes. Same as 2.1.3.2, Method 203A.

2.2 Procedures for Fugitive Process Dust Emissions.

2.2.1 Position. Same as section 2.2.1, Method 203A.

2.2.2 Field Records. Same as section 2.2.2, Method 203A.

2.2.3 Observations.

2.2.3.1 Observations for a 15-second Observation Interval Regulations. Same as section 2.2.3, Method 203A.

2.2.3.2 Observations for a 5-second Observation Interval Regulations. Same as section 2.2.3, Method 203A, except, observe the plume momentarily at 5-second intervals.

2.3 Recording Observations. Record opacity observations to the nearest 5 percent at the prescribed interval on an observational record sheet. Each momentary observation recorded represents the average of emissions for the prescribed period. If a 5-second observation period is not specified in the applicable regulation, a 15-second interval is assumed. The overall time for which recordings are made shall be of a length appropriate to the regulation for which opacity is being measured.

2.3.1 Recording Observations for 15-second Observation Interval Regulations.

Record opacity observations to the nearest 5 percent at 15-second intervals on an observational record sheet. Each momentary observation recorded represents the average of emissions for a 15-second period.

2.3.2 Recording Observations for 5-second Observation Interval Regulations. Record opacity observations to the nearest 5 percent at 5-second intervals on an observational record sheet. Each momentary observation recorded represents the average of emissions for 5-second period.

2.4 Data Reduction for Instantaneous Limitation Regulations. For an instantaneous limitation regulation, a 1-minute averaging time will be used. Divide the observations recorded on the record sheet into sets of consecutive observations. A set is composed of the consecutive observations made in 1 minute. Sets need not be consecutive in time, and in no case shall two sets overlap. Reduce opacity observations by dividing the sum of all observations recorded in a set by the number of observations recorded in each set.

2.4.1 Data Reduction for 15-second Observation Intervals. Reduce opacity observations by averaging four consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of four consecutive observations. For each set of four observations, calculate the average by summing the opacity of the four observations and dividing this sum by four.

2.4.2 Data Reduction for 5-second Observation Intervals. Reduce opacity observations by averaging 12 consecutive observations recorded at 5-second intervals. Divide the observations recorded on the record sheet into sets of 12 consecutive observations. For each set of 12 observations, calculate the average by summing the opacity of the 12 observations and dividing this sum by 12.

3. Qualification and Test

Same as section 3, Method 203A.

TABLE A.—SMOKE METER DESIGN AND PERFORMANCE SPECIFICATIONS

Parameter	Specification
a. Light Source	Incandescent lamp operated at nominal rated voltage.
b. Spectral response of photocell.	Photopic (daylight spectral response of the human eye—Reference 4.1 of section 4.).
c. Angle of view	15 degrees maximum total angle.
d. Angle of projection	15 degrees maximum total angle.
e. Calibration error	±+3-percent opacity, maximum.
f. Zero and span drift	±1-percent opacity, 30 minutes.
g. Response time	≤ 5 seconds.

II. Vacant Lots

The following test methods shall be used for determining whether a vacant lot, or portion thereof, has a stabilized surface. Should a disturbed vacant lot contain more than one type of disturbance, soil, vegetation or other characteristics which are visibly distinguishable, test each representative surface for stability separately in random areas according to the test methods in section II. of this appendix and include or eliminate it from the total size assessment of disturbed surface area(s) depending upon test method results. A vacant lot surface shall be considered stabilized if any of the test methods in section II. of this appendix indicate that the surface is stabilized such that the conditions defined in paragraph (b)(16)(ii) of this section are met:

1. Determination of visible crust thickness

Where a visible crust exists, break off a small piece of crust. Check whether it crumbles easily between the fingers. Using a ruler, measure the thickness of the crust. Determination of thickness shall be based on at least three (3) crustal measurements representative of the disturbed surface area. If thin deposits of loose uncombined grains cover more than 50 percent of a crusted surface, apply the test method in section II.2. of this appendix to the loose material to determine whether the surface is stabilized.

2. Determination of Threshold Friction Velocity (TFV)

For disturbed surface areas that are not crusted or vegetated, determine threshold friction velocity (TFV) according to the following sieving field procedure (based on a 1952 laboratory procedure published by W. S. Chepil).

(i) Obtain and stack a set of sieves with the following openings: 4 millimeters (mm), 2 mm, 1 mm, 0.5 mm, and 0.25 mm. Place the sieves in order according to size openings beginning with the largest size opening at the top. Place a collector pan underneath the bottom (0.25 mm) sieve. Collect a sample of loose surface material from an area at least 30 cm by 30 cm in size to a depth of approximately 1 cm using a brush and dustpan or other similar device. Only collect soil samples from dry surfaces (i.e. when the surface is not damp to the touch). Remove any rocks larger than 1 cm in diameter from the sample. Pour the sample into the top sieve (4 mm opening) and cover the sieve/collector pan unit with a lid. Minimize escape of particles into the air when transferring surface soil into the sieve/collector pan unit. Move the covered sieve/collector pan unit by hand using a broad, circular arm motion in the horizontal plane. Complete twenty circular arm movements, ten clockwise and ten counterclockwise, at a speed just necessary to achieve some relative horizontal motion between the sieves and the particles. Remove the lid from the sieve/collector pan unit and disassemble each sieve separately beginning with the largest sieve. As each sieve is removed, examine it for loose particles. If loose particles have not been sifted to the finest sieve through which they can pass, reassemble and cover the sieve/collector pan unit and gently rotate it an additional ten times. After disassembling the sieve/collector pan unit, slightly tilt and gently tap each sieve and the collector pan so that material aligns along one side. In doing so, minimize escape of particles into the air. Line up the sieves and collector pan in a row and visibly inspect the relative quantities of catch in order to determine which sieve (or whether the collector pan) contains the greatest volume of material. If a visual determination of relative volumes of catch among sieves is difficult, use a graduated cylinder to measure the volume. Estimate TFV for the sieve catch with the greatest volume using Table 1, which provides a correlation between sieve opening size and TFV.

TABLE 1.—(METRIC UNITS). DETERMINATION OF THRESHOLD FRICTION VELOCITY (TFV)

Tyler Sieve No.	Opening (mm)	TFV (cm/s)
5	4	≤100
9	2	100
16	1	76
32	0.5	58
60	0.25	43
Collector Pan	.....	30

Collect at least three (3) soil samples which are representative of the disturbed surface area, repeat the above TFV test method for each sample and average the resulting TFVs together to determine the TFV uncorrected for non-erodible elements.

(ii) Non-erodible elements are distinct elements on the disturbed surface area that are larger than one (1) cm in diameter, remain firmly in place during a wind episode and inhibit soil loss by consuming part of the shear stress of the wind. Non-erodible elements include stones and bulk surface material but do not include flat or standing vegetation. For surfaces with non-erodible elements, determine corrections to the TFV by identifying the fraction of the survey area, as viewed from directly overhead, that is occupied by non-erodible elements using the following procedure. Select a survey area of one (1) meter by 1 meter. Where many non-erodible elements lie on the disturbed surface area, separate them into groups according to size. For each group, calculate the overhead area for the non-erodible elements according to the following equations:

(Average length) × (Average width) = Average Dimensions ..... Eq. 1
(Average Dimensions) × (Number of Elements) = Overhead Area ..... Eq. 2
Overhead Area of Group 1 + Overhead Area of Group 2 (etc..) = Total Overhead Area ..... Eq. 3
Total Overhead Area/2 = Total Frontal Area ..... Eq. 4

(Total Frontal Area/Survey Area) × 100 = Percent Cover of Non-erodible Elements ..... Eq. 5

(Ensure consistent units of measurement, e.g. square meters or square inches when calculating percent cover.)

Repeat this procedure on an additional two (2) distinct survey areas representing a disturbed surface and average the results. Use Table 2 to identify the correction factor for the percent cover of non-erodible elements. Multiply the TFV by the corresponding correction factor to calculate the TFV corrected for non-erodible elements.

TABLE 2.—CORRECTION FACTORS FOR THRESHOLD FRICTION VELOCITY

Percent cover of non-erodible elements	Correction factor
≥ 10%	5
≥ 5% and < 10%	3
< 5% and ≥ 1%	2
< 1%	None.

3. Determination of Flat Vegetation Cover

Flat vegetation includes attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind. Flat vegetation which is dead but firmly attached shall be considered equally protective as live vegetation. Stones or other aggregate larger than one centimeter in diameter shall be considered protective cover in the course of conducting the line transect method. Where flat vegetation exists, conduct the following line transect method.

(i) Stretch a one-hundred (100) foot measuring tape across a disturbed surface area. Firmly anchor both ends of the measuring tape into the surface using a tool such as a screwdriver with the tape stretched taut and close to the soil surface. If vegetation exists in regular rows, place the tape diagonally (at approximately a 45 degree angle) away from a parallel or perpendicular position to the vegetated rows. Pinpoint an area the size of a 3⁄32 inch diameter brazing rod or wooden dowel centered above each one-foot interval mark along one edge of the tape. Count the number of times that flat vegetation lies directly underneath the pinpointed area at one-foot intervals. Consistently observe the underlying surface from a 90 degree angle directly above each pinpoint on one side of the tape. Do not count the underlying surface as vegetated if any portion of the pinpoint extends beyond the edge of the vegetation underneath in any direction. If clumps of vegetation or vegetative debris lie underneath the pinpointed area, count the surface as vegetated unless bare soil is visible directly below the pinpointed area. When 100 observations have been made, add together the number of times a surface was counted as vegetated. This total represents the percent of flat vegetation cover (e.g. if 35 positive counts were made, then vegetation cover is 35 percent). If the disturbed surface area is too small for 100 observations, make as many observations as possible. Then multiply the count of vegetated surface areas by the appropriate conversion factor to obtain percent cover. For example, if vegetation was counted 20 times within a total of 50 observations, divide 20 by 50 and multiply by 100 to obtain a flat vegetation cover of 40 percent.

(ii) Conduct the above line transect test method an additional two (2) times on areas representative of the disturbed surface and average results.

4. Determination of Standing Vegetation Cover

Standing vegetation includes vegetation that is attached (rooted) with a predominant vertical orientation. Standing vegetation which is dead but firmly rooted shall be considered equally protective as live vegetation. Conduct the following standing vegetation test method to determine if 30 percent cover or more exists. If the resulting percent cover is less than 30 percent but equal to or greater than 10 percent, then conduct the Threshold Friction Velocity test in Section II.2. of this in order to determine whether the disturbed surface area is stabilized according to paragraph (b)(16)(ii)(E) of this section.

(i) For standing vegetation that consists of large, separate vegetative structures (for example, shrubs and sagebrush), select a survey area representing the disturbed surface that is the shape of a square with sides equal to at least ten (10) times the average height of the vegetative structures. For smaller standing vegetation, select a survey area of three (3) feet by 3 feet.

(ii) Count the number of standing vegetative structures within the survey area. Count vegetation which grows in clumps as a single unit. Where vegetation of different height and width exists, count it in groups with similar dimensions within the survey area. For each group, calculate the frontal silhouette area for the vegetative structures according to the following equations:

(Average height) × (Average width) = Average Dimensions *Eq. 6*
(Average Dimensions) × (Number of Vegetation) = Frontal Silhouette Area *Eq. 7*
Frontal Silhouette Area of Group 1 + Frontal Silhouette Area of Group 2 (etc..) = Total Frontal Silhouette Area *Eq. 8*
(Total Frontal Silhouette Area/Survey Area) × 100 = Percent Cover of Standing Vegetation *Eq. 9*

(Ensure consistent units of measurement, e.g. square meters or square inches when calculating percent cover.)

(iii) Within a disturbed surface area that contains multiple types of vegetation with each vegetation type uniformly distributed, results of the percent cover associated with the individual vegetation types may be added together.

(iv) Repeat this procedure on an additional two (2) distinct survey areas representing the disturbed surface and average the results.

5. Alternative Test Methods

Alternative test methods may be used upon obtaining the written approval of the EPA.

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