

## **Section 7 -- Response to Comments on the Proposed Approval of the Phoenix Serious Area Plan**

We received 14 letters commenting on our April 2000 proposed approval of the Metropolitan Phoenix serious area plan's provisions for attainment of the annual standard and 1 letter commenting on our October 2001 proposed approval of the provisions for the 24-hour standard and contingency measures. These comment letters came from:

### Annual Standard Proposal

1. Dr. Arthur K. Parizek, private citizen, December 23, 1999
2. Dr. Arthur K. Parizek, private citizen, February 2, 2000
3. Dr. Arthur K. Parizek, private citizen, February 25, 2000
4. Emily Bell, private citizen, undated
5. Wendy Pellegrini, private citizen, June 6, 2000
6. John Porter, private citizen, undated
7. David M. Martin, Arizona Chapter Associated General Contractors, June 30, 2000
8. Sharon Solon, private citizen, email, June 27, 2000
9. Stephen M. Brittle, Don't Waste Arizona, June 9, 2000
10. Nancy C. Wrona, Arizona Department of Environmental Quality, June 29, 2000
11. The Stenberg Family, private citizen, June 16, 2000
12. Joy E. Herr-Cardillo, Arizona Center for Law in the Public Interest, July 20, 2000
13. Albert F. Brown, Maricopa County Environmental Services Department, July 27, 2000
14. James E. Bourey, Maricopa Association of Governments, July 27, 2000

### 24-Hour Standard Proposal

1. Joy E. Herr-Cardillo, Arizona Center for Law in the Public Interest, November 1, 2001.

### ***Adequacy of the Transportation Conformity Budget***

**Comment:** Maricopa Association of Governments (MAG) comments that EPA's April 6, 2000 adequacy notice referred incorrectly to an inadequacy finding rather than to an adequacy finding. It also comments that EPA's March 29, 2000 adequacy letter stated that the plan does not contain a budget for the 24-hour PM-10 standard although the plan clearly states that the budget applies to both the annual and 24-hour standard.

**Response:** We published a notice correcting both errors on August 18, 2000. See 65 FR 50527.

**Comment:** MAG comments that EPA's adequacy finding stated that attainment of the PM-10 standards is based on reductions from controls and commitments to adopt controls on agricultural sources. However, according to MAG, these agricultural controls are included in the plan as contingency measures and that attainment of the standards is not based on reductions from controls.

**Response:** MAG is correct that reductions from the agricultural general permit rule are not needed to demonstrate attainment of the annual PM-10 standard and that the rule functions as a contingency measure for that standard. However, reductions from the rule are needed to attain the 24-hour PM-10 standard and the rule cannot be a contingency measure for this standard. See ADEQ TSD, pp. 3-9 and BMP TSD, pp. 6 - 9.

**Comment:** The Arizona Chapter of the Associated General Contractors (AGC) notes that during the adequacy process EPA received no comments and the adequacy finding became effective on April 21, 2000. AGC comments that it understands that the extension of the comment period on the proposed approval of the metropolitan Phoenix PM-10 plan for the annual standard was requested for the purposes of reviewing the adequacy of the motor vehicle emissions budget and asserts that if such issues are raised during the comment period on the annual standard proposal they come too late because the time to have raised such concerns was during the comment period during the adequacy process.

**Response:** The City of Tempe through their attorney, Bob Yuhke, requested two extensions of the comment period on the proposed approval of the annual standard provisions. The City provided several reasons for asking for the extensions including allowing time for its contractor to review the emission estimates developed from the MAG transportation plan. These emission estimates are important not only to the conformity budget but also to the serious area plan's attainment and reasonable further progress (RFP) demonstrations; therefore, comments on them during the annual standard proposal (which proposed approval of the attainment and RFP demonstrations for the annual standard) would have been timely.

We note that Tempe did not submit comments.

### ***Comments on Separating the Rulemaking Actions on the Annual and 24-Hour Standards***

**Comment:** The Arizona Center for Law in the Public Interest (ACLPI) commented that EPA is correct that serious area PM-10 plans must independently address both the 24-hour and the annual PM-10 standards but asserts that we misread the Ninth Circuit's decision in *Ober v. EPA (Ober I)*, 84 F.3d. 304 (9th Cir. 1996), by concluding that it gives us the authority to act separately on the two standards with respect to PM-10 SIP revisions. ACLPI states that the facts

in *Ober I* were that Arizona submitted a plan revision that demonstrated impracticability of attainment with respect to the annual standard but failed to address the 24-hour standard altogether, EPA approved the revisions, and petitioners challenged EPA's action on the ground that the plan (and by extension, EPA's approval) failed to address the 24-hour standard as required by the Act. Based on this understanding of the facts in *Ober I*, ACLPI asserts that the Ninth Circuit would have affirmed EPA's action if EPA were correct that it may act separately on the two PM-10 standards but the Court's decision indicates that EPA is required to act on both standards simultaneously.

**Response:** This comment is now moot. While we proposed approval of the provisions for the annual standard and the 24-hour standard separately, we are finalizing approval of the provisions for both standards together. We will, however, address the substance of ACLPI's comments because they misstate both the facts and outcome of *Ober I*.

*Ober I* involved a challenge to our approval of the 1991/93 moderate area PM-10 plan for the Phoenix metropolitan area. Arizona submitted the plan to address the moderate area planning requirements for both the annual and 24-hour PM-10 standards and not just the annual standard.<sup>1</sup> We reviewed the plan and approved it as *fully* meeting the requirements of the Act for PM-10 moderate nonattainment areas; that is, we approved it because we determined that it adequately addressed the planning requirements for both standards.<sup>2</sup>

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<sup>1</sup> Quoting from the submittal letter for the 1993 revisions to the plan:

The 1993 Maricopa County Area PM-10 SIP revisions to the 1991 particulate plan meet the requirements of Title I, Part D of the Clean Air Act as Amended in 1990 and demonstrates that attainment of the PM-10 National Ambient Air Quality Standards [NAAQS] for PM-10 by December 31, 1994 is impracticable. To attain the annual PM-10 NAAQS by that deadline, a 24.2 % reduction in PM-10 would be needed. Committed and enforceable control measures will yield an annual PM-10 reduction of only 4.8%. Moreover, the 24-hour PM-10 NAAQS were exceeded by an even larger margin (Page 9-16 of the Nonattainment Area Plan).

Letter, Edward Z. Fox, Director, ADEQ to John Wise, Acting Regional Administrator, EPA-Region 9, August 11, 1993.

<sup>2</sup> In the final action on the moderate area plan, we argued that the impracticability of meeting both standards is demonstrated if the SIP demonstrates that, even with the implementation of RACM, the area cannot attain either one of the standards (annual or 24-hour)

ACLPI, on behalf of plaintiff Ober, challenged the approval on several grounds, one of which was the plan's failure to address the CAA planning requirements separately for each PM-10 standard. *Ober I* at 308. The Court held that the Act requires an implementation plan to address each PM-10 standard independently. The Court determined that Arizona's moderate PM-10 plan failed to do so and thus we erred in approving the plan as sufficient to fulfill all the Act's requirements for moderate PM-10 areas. *Ober I* at 311 and 309. In making this ruling, the Court was not objecting to us acting on the annual standard separately from the 24-hour standard, rather it was objecting to us acting on the annual standard and then claiming that no further analysis of the 24-hour standard was necessary.

ACLPI's assertion that the Ninth Circuit would have affirmed our approval of the 1991/93 PM-10 plan if we are correct that we can act separately on the two PM-10 standards cannot be reconciled with the Court's findings. Neither can it be reconciled with the Court's order in *Ober I*. The Court ordered the State to prepare a plan to address the RACM, attainment and RFP requirements for the 24-hour standard. *Ober I* at 316. At the same time it ordered us to provide an opportunity for public comment on elements of our approval of the 1991/93 implementation plan, a plan the Court concluded only addressed the annual standard. *Id.* Hence the Court itself directed us and the State to pursue different actions with regard to the 24-hour and annual standards, clearly contemplating the State and we would need to address each standard in separate plans and rulemakings. The Court would not have issued this order if it believed that the State needed to submit one document addressing both standards and that EPA had to act on both standards concurrently.

We note that ACLPI's comments here represent an apparent reversal in its interpretation of the *Ober I* decision. Subsequent to that decision, we, ACLPI, and Arizona negotiated an approach for responding to the Court's order on the 24-hour standard. See *Ober v. Browner*, U.S. District Court for the District of Arizona, No. CIV 94-1318 PHX PGR, Modified Second Consent Decree, March 25, 1997. This negotiated settlement required us to require Arizona to develop a plan addressing only the 24-hour standard and for us to act on that plan within certain time frames. Arizona submitted that plan, known as the microscale plan, in May, 1997 and we approved it in part and disapproved it in part on August 4, 1997 (62 FR 41856). ACLPI commented extensively on the plan both during the State's public review period and during our comment period but did not comment that the microscale plan or our approval of it were precluded by *Ober I* because the plan only addressed the 24-hour standard.

**Comment:** ACLPI asserts that the plain language of the Act supports the *Ober I* results and

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by December 31, 1994. See 60 FR 18010, 18016 (April 10, 1995).

contradicts EPA's position, arguing that section 189(b)(1) clearly contemplates that the plan revisions for serious PM-10 areas must address both PM-10 NAAQS in the same document.

**Response:** We assume that the "plain language" that ACLPI is interpreting is the phrase "submit *an implementation plan* for such area that includes each of the following..." in CAA section 189(b)(1) and that it interprets this to mean that the required "an implementation plan" is a single document. This interpretation, however, is belied by section 189(b)(2) which sets the submittal dates for each of the requirements in section 189(b)(1).

Section 189(b)(1) contains two requirements: a demonstration of either attainment or the impracticability of attainment and provisions to assure implementation of BACM. Section 189(b)(2) requires the provisions for BACM to be submitted 18 months after an area is reclassified to serious and the attainment demonstration either 18 months after or 4 years after reclassification depending on the grounds for reclassification.<sup>3</sup> So, for some serious PM-10 nonattainment areas then, the "implementation plan" required by section 189(b)(1) is contemplated by the Act to be at least two separate submittals made 2-1/2 years apart.<sup>4</sup> When section 189(b) is read in its entirety, the phrase "submit an implementation plan" does not and cannot mandate that the entire serious area plan be submitted as a single document.

We allow states to make multiple submittals to meet a CAA requirement provided that the submittals are timely and collectively meet the applicable statutory requirement. We also often act on multiple submittals at a time. Today's rulemaking is an example of both. Over the last four years, Arizona has made at least eight separate and distinct submittals that taken together comprise the metropolitan Phoenix serious area plan. We have already acted on two of these submittals and are today acting on the final six.<sup>5</sup>

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<sup>3</sup> Areas reclassified because of the impracticability of attainment by December 31, 1994 had four years to submit their full attainment plans. Four of the five PM-10 nonattainment areas that were reclassified from moderate to serious prior to 1997 (South Coast, Owens Lake, San Joaquin Valley, Las Vegas) were reclassified on impracticability grounds and thus had split schedules for submitting their serious area plans. 58 FR 3334 (January 8, 1993).

<sup>4</sup> Because under section 110(k)(3) we are obligated to act on these submittals within 1 year of finding them complete, our actions on these two submittals could also be 2-1/2 years apart.

<sup>5</sup> The eight submittals are: the May 1997 microscale plan, the December 1997 BACM plan, the February 2000 revised MAG plan (which replaced a July 1999 submittal), the March 2000 submittal of Rules 310/310.01, the January 2000 submittal of the residential wood burning

**Comment:** In its comments on the annual standard proposal, ACLPI argues that under section 110(k)(3), EPA may approve a plan revision, disapprove a revision, or approve it in part and disapprove it in part, but the Agency may not approve part of the plan revision and defer action on the rest of it until a later date and, because EPA has failed to propose action on the 24-hour standard and contingency measure portions of the Metropolitan Phoenix serious area plan, this rulemaking does not constitute a final agency action on the annual standard or any other aspect of the Plan and cannot legally stop the sanctions or FIP clocks from running.

**Response:** While CAA section 110(k)(3) tells us how we can act on a SIP submittal, it does not tell us that we must act on all parts of it concurrently. There is in fact no timing element in section 110(k)(3); it simply states *how* we can act on a plan and not *when*.<sup>6</sup> The timing requirement is set out in the previous section, section 110(k)(2), which provides that we must complete action on a submittal within a year of the applicable completeness determination. Again, this section does not compel us to act on all parts of the submission in a single action.

In this final action, we have chosen to combine our actions on the provisions for the 24-hour standard, the annual standard, and contingency measures. We need not have done this. We could have done separate rulemakings on the 24-hour provisions, the annual standard provisions, and the contingency measures. Such separate rulemaking would have divided action on the Metropolitan Phoenix serious area plan along clear statutory lines. We do agree that we cannot find that Arizona has met the Act's requirements for serious area PM-10 nonattainment areas until we have fully approved all elements but do not believe that our approvals must come in a single rulemaking.

We provided our reasoning for splitting the proposals between the two standards. See 65 FR 19964, 19969. In March 2000, the Phoenix area was under sanctions because of disapproved provisions in its moderate area PM-10 plan related to the annual standard. Once Arizona has submitted a plan that corrected these disapprovals, we had the responsibility and duty to act quickly on them to stay the sanctions. However, at the same time, we were aware that Arizona

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ordinance, the July 2000 submittal of the BMP general permit rule, the June 2001 BMP TSD, and the January 2002 revised MCESD commitments. We have already acted on the microscale plan and the BMP general permit rule.

<sup>6</sup> We agree that we may not act on a SIP revision in a manner that changes the State's intent. However, since Arizona intended that this plan meet the statutory requirements for both the annual and 24-hour standards and there was nothing in our proposed actions that changed the State's intent.

would soon be making substantive changes to the 24-hour standard provisions in the submitted plan. We, therefore, went ahead with the proposal on the annual standard provisions to stay the sanctions but delayed the proposal for the 24-hour standard provisions in order to avoid issuing a proposal that would only need to be redone once Arizona submitted the changes.

Not only do we not believe the CAA requires us to act on the annual and 24-hour standard provisions concurrently, but we also do not believe that there are any technical or policy reasons to do so, especially in light of the differences between the two standards. The Ninth Circuit described these differences in *Ober I*:

For PM-10, the EPA promulgated two separate NAAQS—the annual standard and the 24-hour standard—which differ in the following respects. First, the 24-hour standard offers protection against dangerous short-term exposures to high PM-10 levels, a protection that is distinct from the protection against chronic degradation in lung function provided by the annual standard. Second, the sources of PM-10 violations differ for the annual and the 24-hour: violations of the 24-hour standard are generally caused by localized sources such as construction projects, whereas violations of the annual standard tend to be caused by more diverse, dispersed sources. Third, control measures differ in effectiveness for the 24-hour standard and the annual standard.

*Ober I* at 309.

Finally, we agree with ACLPI that our April 13, 2000 proposal is not a final agency action. It is clearly labeled as a proposal and requests comments. As a proposal, we agree with ACLPI that it cannot legally stop sanctions. Concurrently with our proposed action, we also published an interim final determination that we had preliminarily concluded that Arizona had corrected its SIP deficiency regarding the annual standard. 65 FR 19992 (April 13, 2000). This determination is a final agency action and under our sanction regulations at 40 CFR 52.31(d)(2)(ii) temporarily stays the sanctions until such time as we take final action on provisions for the annual standard. We noted in the proposed approval of the annual standard provisions that we were issuing this interim final determination. 65 FR 19964, 19966.<sup>7</sup>

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<sup>7</sup> Nowhere in its July 20, 2000 letter does ACLPI cite to or comment on the interim final determination and, even if it had done so, the comment period on that determination closed on June 14, 2000, more than a month before ACLPI submitted its comments. See 65 FR 19992. We received no comments on the interim final determination. Our discussion here is necessary to fully respond to this comment and not does indicate that we believe ACLPI commented on

**Comment:** In its comment letter on the annual standard proposal, the Arizona Chapter of Associated General Contractors (AGC) stated its support for EPA's proposal to approve the Metropolitan Phoenix serious area plan as meeting the Act's requirements for the annual standard. However, AGC commented that EPA could and should have made the same proposals for the 24-hour standard because the Agency had sufficient information to finalize an action on the 24-hour plan at that time.

**Response:** We agree that we could have proposed to act on the 24-hour standard at the same time as the annual standard proposal. If we had, then we would have more than likely proposed to disapprove the attainment and RFP demonstrations for that standard.

Attainment of the 24-hour standard in the Phoenix area, unlike the annual standard, depends in part on emission reductions from the agricultural BMP general permit rule. At the time of the annual standard proposal, Arizona had quantified the level of emission reductions needed from the general permit rule to attain the 24-hour standard but had not yet quantified the level of emission reductions the rule could actually deliver. Without the latter, the State could not show attainment and RFP for the 24-hour standard at the West Chandler site and therefore we would have needed to propose to disapprove these attainment and RFP demonstrations. However, we knew that the State would soon be revising these demonstrations in a manner that would likely make them approvable. Given this situation, we chose to delay proposing on the 24-hour provisions until after Arizona submitted the revisions.

In June 2001, Arizona submitted information on the efficacy of the agricultural BMP general permit rule. On October 2, 2001, we proposed to approve the 24-hour plan based in part on this new information. See 66 FR 50252.

***EPA's Policy for Meeting the Serious PM-10 Nonattainment Area Requirements and Attainment Date Extension Requirements***

Implementation of BACM

**Comment:** In its July 2000 comments on the annual standard proposal, ACLPI disagrees that EPA can exempt de minimis sources from the Act's BACM requirement. ACLPI argues that there are no exceptions to the Act's requirement that serious area plans include "provisions to assure that the best available control measures for the control of PM-10 shall be implemented." ACLPI incorporates by reference its arguments in its Brief for the Petitioners in *Ober v. Whitman*

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that determination.

(9th Cir., No. 98-71158) (*Ober II*) at pp. 21-19, noting that although *Ober II* involves a challenge to our exemption of de minimis sources from the RACM requirement, the same reasoning applies to invalidate the BACM exemption as well.

**Response:** *Ober II* was a challenge to our 1998 PM-10 moderate area federal implementation plan (FIP) for the Phoenix area. In the FIP, we exempted from the RACM requirement, source categories with de minimis impacts on PM-10 levels. We established a de minimis threshold of  $1 \mu\text{g}/\text{m}^3$  for the annual standard and  $5 \mu\text{g}/\text{m}^3$  for the 24-hour standard, initially taking these thresholds from the new source review (NSR) program for attainment areas. We showed that these were the correct thresholds for determining which source categories were de minimis for the RACM requirement by showing that the application of RACM on the de minimis source categories would not make the difference between attainment and nonattainment by the applicable attainment deadline. See 63 FR 41326, 41330 (August 3, 1998). In *Ober II*, ACLPI challenged our ability to exempt de minimis source categories from the RACM requirement and the specific thresholds that we used.

In March, 2001 (well after the close of the comment period on the annual standard proposal), the 9th Circuit issued its opinion in *Ober II*. *Ober v. Whitman*, 243 F.3d 1190 (9th Cir. 2001). The court held that we have the power to make de minimis exemptions to control requirements under the Clean Air Act and that our use of the de minimis levels from the NSR program was appropriate. In addition, the Court determined that it was appropriate for us to use, as a criterion for identifying de minimis sources, whether controls on the sources would result in attainment by the attainment deadline. *Ober II* at 1198.

In finding that EPA had the authority to exempt de minimis source categories of PM-10 from CAA control requirements, the Court wrote:

Courts have refused to allow de minimis exemptions where the statutory language does not allow it....There is no explicit provision in the Clean Air Act prohibiting the exemption from controls for de minimis sources of PM-10 pollution. Nor is the statutory language uncompromisingly rigid. The Act provides that a plan must include “reasonably” available control measures to bring the area into attainment unless attainment is “impracticable.” Those terms allow for the exercise of agency judgment....We conclude that EPA, in discharging its duty to enforce the Act, is permitted under [*Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984)] to exempt de minimis sources of PM-10 from pollution controls.

*Ober II* at 1194 (internal cites and quotes omitted).

The Court's reasoning is equally applicable to the BACM requirement. Like the RACM requirement, there is no explicit provision in the Act prohibiting the exemption from the BACM requirement for de minimis sources of PM-10 pollution. Nor is the language in section 189(b)(1)(B) requiring the implementation of BACM "uncompromisingly rigid." Like RACM, the Act and EPA policy provide that a PM-10 plan must include the "best" available control measures to bring the area into attainment unless attainment is "impracticable." The term "best"--no less than the term "reasonably"--allows for the exercise of agency judgment.

In *Ober II*, the Court also upheld the procedures and criteria we used to determine what constituted a de minimis source or source category for RACM. *Ober II* at 1198. We have applied exactly the same procedures and criteria for BACM. For BACM, we proposed the same NSR thresholds as a starting point for determining what constitutes a de minimis source category. See 66 FR 50252, 50281. We also required the State to demonstrate that its identified de minimis sources are in fact de minimis by showing that controls on them would not make the difference between attainment and nonattainment by the applicable deadline. See 66 FR 50252, 50281.

Finally, we note that we invoke a de minimis exemption from the Act's general but open-ended control requirements like RACM, BACM, and MSM as a means of ensuring that states focus their always limited resources on the controls most likely to result in real air quality benefits. It is more likely to harm air quality than to help it if these limited resources are diverted away from more substantive measures into the adoption and implementation of measures with trivial impacts.

Nowhere is the need to concentrate resources on the most significant sources more necessary than in large urban areas dominated by PM-10 fugitive dust sources, such as the metropolitan Phoenix area. Adequate controls in these types of areas require very large investments of both financial and human resources because of the number of sources and the type of needed controls.<sup>8</sup> As the court recognized in *Alabama Power Co. v. Costle*, 636 F.2d 323, 360 (D.C.Cir. 1979), "[c]ourts should be reluctant to apply the literal terms of a statute to

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<sup>8</sup> There are literally thousands of sources subject to fugitive dust controls in the Phoenix area, including construction sites, agricultural fields, vacant lots, unpaved roads, and paved roads. For example, MCESD issued 2500 construction permits in 1999; we mailed 50,000 letters to owners of vacant lots as part of our 1999 outreach on the PM-10 FIP. Effective fugitive dust control from many of these sources requires either an ongoing and extensive compliance and enforcement presence or large capital expenditures (e.g., paving unpaved roads, purchasing and operating PM-10 street sweepers).

mandate pointless expenditures of effort.... The ability ... to exempt de minimis situations from a statutory command is not an ability to depart from the statute, but rather a tool to be used in implementing the legislative design." Cited in *Ober II* at 1194.

**Comment:** In its July 2000 comments on the annual standard proposal, ACLPI argues that our de minimis exception violates the Act's central mandate for attainment of the PM-10 standards by December 31, 2001 or as expeditiously as possible thereafter because it allows us and the states to eschew otherwise available control measure based on an arbitrary de minimis test even if the aggregate effect of implementing controls on all "de minimis" sources would hasten attainment.

**Response:** ACLPI misstates the scope of the BACM de minimis exemption. We do *not* consider a source category or groups of source categories to be de minimis if applying BACM to it or them would meaningfully expedite attainment in areas demonstrating attainment by December 31, 2001 or would make the difference between attainment and nonattainment by December 31, 2001 in areas requesting an extension. We stated this clearly in the proposal on the annual standard:

A serious area plan must provide for the implementation of BACM on each significant (i.e., non-de minimis) source category. *Addendum* at 42011. In guidance, we have established a presumption that a "significant" source category is one that contributes 1  $\mu\text{g}/\text{m}^3$  or more of PM-10 to a location of an annual standard violation. *Addendum* at 42011. However, whether the threshold should be lower than this in any particular area depends upon the specific facts of that area's nonattainment problem. Specifically, in areas that are demonstrating attainment by December 31, 2001, it depends on whether requiring the application of BACM on source categories below a proposed de minimis level would meaningfully expedite attainment. In areas that are claiming the impracticability of attainment by December 31, 2001, it depends upon whether requiring the application of BACM on source categories below a proposed de minimis level would make the difference between attainment and nonattainment by the serious area deadline of December 31, 2001.

65 FR 19964, 19967.

**Comment:** In its July 2000 comments on the annual standard proposal, ACLPI comments that even if the de minimis exception is allowed, the thresholds set by EPA are arbitrary because they were not based on actual PM-10 conditions in the nonattainment area, but on levels borrowed from the wholly unrelated new source review program.

**Response:** ACLPI again misstates the scope of the de minimis exemption. As clearly stated in the quote directly above, whether the NSR thresholds are appropriate for an area depends on the specific facts of that area's PM-10 nonattainment problem, that is, it depends on the actual PM-10 conditions in the nonattainment area. We do not accept the NSR thresholds as the correct de minimis thresholds without first requiring a conclusive showing that they do not adversely affect the area's ability to show expeditious attainment.

We used these NSR thresholds in our 1998 FIP. ACLPI raised the same objections to their use there for the RACM requirement as it does here for the BACM requirement. *Ober II* at 1196. The Ninth Circuit in reviewing the FIP found that it was permissible for us to adopt the PM-10 de minimis thresholds already in place in the new source review program to identify de minimis sources for the RACM requirement. *Ober II* at 1196. Our reasoning for applying those thresholds for BACM is the same as our reasoning for applying them for RACM; therefore, we believe that the NSR thresholds are an appropriate starting point for determining which source categories are significant and which are de minimis for the purposes of applying BACM.

ACLPI's comments on these NSR de minimis thresholds, both here and elsewhere, demonstrate a belief that they are rigid thresholds, not subject to adjustment depending on an area's nonattainment problem. As we have stated several times, this is not correct. However, the fact that in both the 1998 FIP and the Metropolitan Phoenix serious area plan, the NSR thresholds were determined to be the appropriate thresholds confirms that they are in fact good indicators of which sources are most important to an area's nonattainment problem and therefore need the highest levels of control and which have little to no impact on the problem and therefore need lesser or no additional controls.

#### Extension of the Attainment Date Beyond 2001

##### 1. Apply for an Attainment Date Extension

**Comment:** ACLPI disagrees with EPA's position that an extension request is not a SIP revision per se, arguing that section 188(e) which sets forth the extension request requirements is included within Part D, subpart 4 of the Act which contains the additional planning provisions for PM nonattainment, thus indicating that an extension application must be submitted as part of a SIP revision and therefore subject to the same notice and comment requirements applicable to SIP revisions.

**Response:** One cannot conclude that the application for an attainment date extension is a SIP revision simply because the provision for it is located in Part D, subpart 4. Subpart 4 consists of three sections: section 188, which contains provision for classifying and setting attainment dates

for PM-10 nonattainment areas; section 189, which contains the requirements for PM-10 plans and the schedule for their submission; and section 190, which requires EPA to issue RACM and BACM guidance. Of these sections, only section 189 contains requirements for SIP submissions.

It is clear from the plain language of section 188(e) that an extension application is not itself a SIP revision. Under section 188(e), a state *applies* for an extension request: “upon application by the State...” and we *grant* the request: “The Administrator may grant at most one such extension.”

When Congress intended to require a state to submit a SIP revision, it states so clearly. See, for example, section 189(a)(1), “[e]ach State...shall submit...an implementation plan...”; section 189(b)(1), “each State...shall submit an implementation plan...”, and section 189(c), “...the State...shall, after notice and opportunity for public comment, submit...plan revisions which provide for attainment of the [PM-10 standard]...” Under the Act, a state does not *apply* for a SIP revision; it *submits* a SIP revision for approval.

When the Act allows us to approve a SIP submittal, it also states so clearly. See, for example, section 110(k)(3): “the Administrator shall approve such [plan or plan revision] submittal...” and section 110(k)(4): “The Administrator may approve a plan revision...”. Under the Act, we do not *grant* SIP revision, we *approve* SIP revisions.

Wording later in section 188(e) also makes clear that the application for an extension is distinct from the SIP revision that must accompany it and not part of that SIP revision: “at the time of the such application, the State must submit a revision to the implementation plan that includes a demonstration of attainment by the most expeditious alternative date practicable.” This attainment demonstration is the one required by section 189(b)(1)(A)(ii).

Finally, the language in section 188(e) parallels the language in section 188(d) which allows us to extend the attainment deadline for moderate PM-10 nonattainment areas for 1 year “upon application by the State” if certain other conditions are met. Neither the Act nor EPA policy treat these section 188(d) extension requests as SIP submittals. See *Memorandum*, Sally L. Shaver, OAQPS, to Regional Air Directors, “Criteria for Granting 1-Year Extensions of Moderate Area Attainment Dates, Making Attainment Determinations, and Reporting on Quantitative Milestones,” November 14, 1994.

In this case, the issue of whether an application for an attainment date extension is a SIP submission is irrelevant because the State treated its application as one. Arizona considered the application to be simply part of the MAG plan, a plan that was submitted as a formal SIP revision and subject to the required public hearing and State adoption. See Letter, Jacqueline E. Schafer

(ADEQ) to Felicia Marcus, EPA, "Submittal of the Maricopa Association of Governments' 1999 Final Revised PM10 Serious Area Particulate Plan for the Maricopa County Nonattainment Area," February 16, 2000.

2. Demonstrate that attainment by 2001 is impracticable.

**Comment:** Because ACLPI disagrees with EPA's exemption of de minimis source categories from BACM, it also disagrees with EPA's view that a state can claim impracticability of attaining the PM-10 standard by December 31, 2001 even if it fails to impose BACM on all sources of PM-10 or PM-10 precursors, where imposing controls would lead to attainment by the deadline.

**Response:** ACLPI finds a disagreement with us where none exists. Under our policy, if BACM on one or more of the proposed de minimis categories will result in attainment by the deadline, then those source categories are not de minimis and BACM must be implemented for them. See the discussion on the BACM requirement above and at 65 FR 19964, 19967.

3. Have complied with all requirements and commitments in its implementation plan.

**Comment:** ACLPI argues that in addition to fully implementing the control measures in the SIP revisions that it has submitted, a state must also show that it has implemented other provisions in its SIP such as (1) establishing and operating an appropriate monitoring network; (2) providing for the enforcement of measures; (3) establishing and enforcing a permit program for the construction and operation of new or modified major stationary sources; (4) providing adequate personnel, funding and authority to carry out the implementation plan, and (5) providing for reasonable further progress. ACLPI also comments that EPA's attempt to limit this requirement to PM-10 commitments has no basis in the Act.

**Response:** We believe that this criterion's purpose is to assure that a state is not rewarded with additional time to attain the PM-10 standards if it has not implemented earlier commitments and requirements to reduce PM-10 levels. Given this purpose, the focus of the test to determine if a state has met this criterion should be on the implementation of PM-10 emission reducing measures rather than on the implementation of programs, such as monitoring and permitting, that make up the overall air quality program's infrastructure but are not emission reducing control measures themselves.<sup>9</sup>

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<sup>9</sup> Generally, nonattainment plans do not include or rely on emission reductions from the permitting of new or modifying sources because of they have no means of predicting if, when,

Part of determining whether a state has implemented its commitments and requirements in earlier plans is assessing whether the state retains the legal authority for them and is funding, staffing, and enforcing them at the level assumed or committed to in those plans. Thus any determination that the state has met its commitments and requirements in earlier plans is also a finding that it has retained its legal authority and has met its commitments regarding enforcement, funding, and staffing.<sup>10</sup>

The CAA's reasonable further progress (RFP) provision requires that nonattainment plans demonstrate that the control requirements in the plan are sufficient to provide for steady progress towards attainment. As such, RFP is not generally a control requirement or commitment in a plan, but rather one of the factors that dictate the scope and timing of a plan's control requirements. RFP is only a requirement or commitment in an implementation plan if the State has chosen to bind itself in the plan to specific enforceable requirements relating to RFP, such as by a separate commitment to achieve a definite emission reduction by a particular RFP milestone, in addition to all other plan requirements and commitments. As in the case of the PM-10 plans for the Phoenix metropolitan area, states generally do not elect to establish these separate RFP requirements or commitments, but rather to demonstrate that the RFP requirement will be met through the implementation of the control measures. These control measures constitute distinct plan requirements and commitments of their own and are individually subject to the compliance test under section 188(e). Hence, whether a state has or has not met RFP is not germane to determining under section 188(e) if a state has complied with all requirements and commitments pertaining to that area in the implementation plan.

Limiting the section 188(e) review to just the PM-10 implementation plan is firmly based on the structure, purpose and language of the Act. The attainment date extension provisions are located in title I, part D, subpart 4 "Additional Provisions for Particulate Matter Nonattainment Areas." Hence, any reference to *the* implementation plan within this subpart is to the PM-10 implementation plan, absent specific language to the contrary. The criterion "the State has complied with all requirements and commitments pertaining to that area in *the* implementation plan" in section 188(e) (emphasis added) contains no language that implies a reference to all of

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and how big such new sources will be constructed or existing sources will be modified.

<sup>10</sup> We only determine pursuant to CAA section 110(a)(2)(E) if a state's committed levels of legal authority, funding, staffing, and enforcement for a control measure are adequate at the time we approve the measure into the SIP. Where we have not approved a measure from an earlier implementation plan, we are limited under section 188(e) to determining if the state has done what it said it would do--no matter how inadequate--rather than what the CAA would require it to do.

an area's implementation plans. Moreover, section 188(e) addresses setting the most expeditious attainment date for meeting the PM-10 air quality standards. There is at best a tenuous and strained connection between the implementation status of plans for attaining other air quality standards (e.g., ozone or carbon monoxide) and the appropriate and most expeditious date for attaining the PM-10 standard.<sup>11</sup>

The language in section 188(e) is almost identical to the language in section 188(d) that allows a one-year extension of the moderate area attainment date if, in part, "the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan." In interpreting and applying section 188(d), we have always considered "the applicable implementation plan" in question to be the State's SIP for PM-10. See *Memorandum*, Sally L. Shaver, OAQPS, to Regional Air Directors, "Criteria for Granting 1-Year Extensions of Moderate Area Attainment Dates, Making Attainment Determinations, and Reporting on Quantitative Milestones," November 14, 1994. See also, 66 FR 32752, 32754 (June 18, 2001) (Attainment date extensions for Utah's PM-10 nonattainment areas).<sup>12</sup>

#### 4. Demonstrate the inclusion of the most stringent measures

**Comment:** ACLPI disagrees that EPA can exempt de minimis sources of PM-10 from the Act's MSM requirement, arguing that the Act requires areas seeking an extension of the serious area PM-10 attainment deadline to demonstrate that their plans include the most stringent measures that are included in the implementation plan of any State or achieved in practice in any State, and can feasibly be implemented in the area," and that there is no de minimis exception to this explicit mandate.

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<sup>11</sup> States may rely on control measures in plans for other pollutants as part of their overall control strategy for attaining the PM-10 standard, e.g., NOx controls in ozone plans can also have a beneficial effect on PM-10. Where a state has explicitly relied on controls in other plans, section 188(e) would require an evaluation of the implementation status of the relevant controls in these other plans.

<sup>12</sup> The Act also includes identical provisions for one-year extensions of the attainment date in ozone and carbon monoxide nonattainment areas. See section 181(a)(5) and 186(a)(4). For these extensions provisions, we have consistently interpreted the reference to "the applicable implementation plan" to be to the approved SIP for ozone (section 181(a)(5)(A)) and CO (section 186(a)(4)(A)). See for example, 61 FR 41759 (August 12, 1996) (1-year extension of the CO attainment date in Las Vegas," 62 FR 61241 (November 17, 1997), (1-year extension of the ozone date for Cincinnati-Hamilton County, Ohio and Kentucky), 62 FR 55173 (October 23, 1997) (1-year extension of the ozone for Louisville, Kentucky; Indiana).

**Response:** As stated above in response to a similar comment regarding the exemption of de minimis sources from the BACM requirement, we believe the *Ober II* court's reasoning in upholding that exemption for the RACM requirement is also applicable to the MSM requirement. Again, we invoke a de minimis exemption from the Act's general but open-ended control requirements like RACM, BACM, and MSM, as a means of ensuring that states focus their always limited resources on the controls most likely to result in real air quality benefits. It is more likely to harm air quality than to help it if these limited resources are diverted away from more substantive measures into the adoption and implementation of measures with trivial impacts.

Like the RACM requirement, there is no explicit provision in the Act prohibiting the de minimis source category exemption from the MSM requirement. Nor is the language in section 188(e) "uncompromisingly rigid." In fact, the phrase--"to the satisfaction of the Administrator"--in the MSM provision specifically calls for the Agency to exercise its judgement in deciding how exactly to apply the requirement. See *Ober II* at 1194.

In our policy on the MSM requirement, we are using the same principles for determining when a source is considered de minimis under the MSM requirement that we used for the RACM requirement upheld by the *Ober II* Court. In doing so, we have carefully constructed the de minimis exemption for the MSM requirement to prevent states from eliminating any controls on sources or source categories that alone or together would result in more expeditious attainment of the PM-10 standards. See 65 FR 19964, 19967; 66 FR 50252, 50583. We note the Phoenix serious area plan does not reject any potential MSM on de minimis source category grounds

**Comment:** ACLPI disagrees that a state can take economic considerations into account when determining the feasibility of MSM for the purposes of the MSM demonstration required under section 188(e). ACLPI argues that the Act only allows for the rejections of an MSM if it cannot feasibly be implemented in the area, quoting *Webster Dictionary's* definition of "feasible" to support its contention. ACLPI goes on to argue that a measure that is included in another SIP or achieved in practice in another state is by definition economically feasible because it is capable of being done or carried out if sufficient resources are devoted to it. ACLPI also argues that by limiting consideration to whether a measure is feasible "in the area," Congress clearly indicated its intent that feasibility be based on area-specific technical considerations, not simply on whether a state is willing to pay for the cost of the control measures; thus infeasibility for the purposes of section 188(e) occurs only where a measure simply cannot be implemented due to technological reasons that are specific to the particular nonattainment area at issue. Finally,

ACLPI argues that the fact that states are only required to adopt those MSM that are included in another SIP or achieved in practice in another state ensures that the MSM requirement does not impose undue economic burdens.

**Response:** We believe that Congress very clearly intended that the phrase “feasible in an area” in section 188(e) to include economic considerations. Section 188(e) lists five criteria that we may consider in determining whether to grant an extension and the length of an extension, the last of which is “the technological *and economic* feasibility of various control measures.” Emphasis added. The term “various control measures” clearly refers back, in part, to the requirement in the first part of section 188(e) that contains the requirement that the plan include “the most stringent measures that ... can feasibly be implemented in the area.”

By allowing us to consider the economic feasibility of measures in judging whether to grant an extension and how long an extension to grant, Congress necessarily also allowed states to consider economic feasibility in demonstrating the need for an extension of a given length. If section 188(e) compelled states to adopt all MSM that were technologically feasible no matter their cost, then there would be no economic feasibility issues for us to review in exercising our discretion to grant an extension. ACLPI’s position would read the very explicit criterion--the technological and economic feasibility of various control measures--out of section 188(e). A statute should not be interpreted to render any provision of that statute meaningless. See *Northwest Forest & Resource v. Glickman*, 82 F.3d 825, 834 (9th Cir. 1996) (citation omitted). See also *Gustafson v. Alloyd Co.*, 115 S. Ct. 1061, 1067 (1995) (no Act of Congress should “be read as a series of unrelated and isolated provisions.”); *Department of Revenue of Oregon v. ACF Industries*, 114 S. Ct. 843, 848 (1994) (“a statute should be interpreted so as not to render one part inoperative”) (quotation omitted).

The definition of the word “feasible,” quoted in the comments as “able to be accomplished; possible,” supports our position that feasibility includes an economic factor for, if a measure is unaffordable, then it cannot be accomplished. Feasible carries with it the connotation of “doable”; it is synonymous with practicable, possible, conceivable, workable, achievable, attainable, desirable, advisable, appropriate, viable, reasonable, fitting, suitable, politic. *The Random House Thesaurus*, College Edition, 1984. A measure whose costs far outweigh any benefits is not practicable, workable, achievable, desirable, advisable, appropriate, viable, reasonable, fitting, suitable, or politic.

ACLPI mistakes economic feasibility with the willingness to fund a program. Many controls are not funded by a state or its local jurisdictions but rather require private entities to

purchase and operate controls or otherwise bear the cost. In fact, most of the control measures that ACLPI asserts later in its comments are MSM not adopted by Arizona (e.g., CARB diesel, South Coast's controls on unpaved roads at cattle feed lots, Clark County's opacity limits for incinerators) impose costs on private entities rather than public and do not represent the State's "unwillingness to fund a program."

Finally, just because a measure is economically feasible in one area does not mean it is economically feasible in another. PM-10 nonattainment areas vary greatly in their sizes, source contributions, number of sources, soil types, wind conditions, rainfall, water availability, energy costs, economic conditions, etc. All of these factors figure into determining if a measure is economically feasible and thus variation in them from one area to another can turn one area's feasible measure into another area's infeasible measure. For example, it is much more likely to be economically feasible to pave all unpaved roads in an area that has 20 miles of unpaved roads than it would be in an area that has 200 miles of unpaved roads.

**Comment:** ACLPI argues that only its interpretation of MSM fits within the Act's strategy of offsetting longer attainment time frames with more stringent control requirements and that by allowing for the rejection of MSM based on cost, EPA has made MSM virtually indistinguishable from BACM. ACLPI asserts that EPA admits as much by stating that an MSM-level of control in an area can be equal to but never greater than the BACM-level of control thus undercutting its interpretation of section 188(e).

**Response:** For the reasons discussed in the preceding response, we reject the notion that a measure's feasibility does not include an economic element.

We agree that the Act's general strategy is to offset longer attainment time frames with more stringent control requirements. We do not agree that the MSM requirement in section 188(e) is the primary mechanism that assures that increasingly stringent control requirements are adopted in areas requesting an extension. In fact, the most stringent control measure provision in section 188(e) will not necessarily result in the adoption of any additional control measures above and beyond those already adopted by the state to provide for BACM and expeditious attainment.

The MSM provision is written to assure that a state consider the most effective controls from elsewhere in the country for implementation in the area requesting an attainment date extension. The results of the analysis are completely dependent on how well other areas have controlled their PM-10 sources. If other areas have not controlled a particular source category

well, then the resulting MSM for that source category will not be a more effective level of control than the level that is actually feasible in the area.

The MSM provision, however, does not require a state to determine the feasibility of controlling a source category at a level greater than the most stringent level from other areas. In other words, it does not require states to determine the maximum level of control that could be applied to a source category given local conditions and the additional implementation time afforded by an extension.

As we have defined it, the maximum level of control that can be applied to a source or source category given local conditions (i.e., given environmental, energy, and economic considerations) by the attainment date is the BACM-level of control for that source or source category. There will be times when a MSM will yield the maximum level of control feasible in the local area, but this is, by definition, the BACM-level of control for the area. Hence our statement that the MSM-level of control can be equal to but never greater than the BACM-level of control for the area.

In considering the MSM provision, there is a tendency to assume that there are always better controls elsewhere than there are in the local area. This assumption is unwarranted, especially for an area that has already gone through an extensive process of identifying and adopting BACM for their significant sources. This type of area is likely to have already evaluated the best controls from other areas (as Arizona did, see MAG plan, Chapter 5) and either adopted them as BACM or rejected them as not feasible for its area. As a result, the likelihood of uncovering substantial new controls during a MSM evaluation is low.

Far more important than the MSM provision for assuring adoption of additional controls is the requirement in CAA sections 189(b)(1)(A)(ii) and 188(e) that the PM-10 plan demonstrate attainment by the most expeditious alternative date practicable but no later than December 31, 2006. The SIP revision containing this demonstration must accompany any request for extension of the attainment date under section 188(e). Because we are required to grant the shortest possible extension, a state must demonstrate that it has adopted the set of control measures that will result in the most expeditious date practicable for attainment. This requirement may require that a state adopt controls that go beyond the most stringent measures adopted or implemented elsewhere.

**Comment:** ACLPI claims that the error in EPA's interpretation of section 188(e) is most clearly demonstrated by its proposed attempt to ensure that the MSM provision results in additional

controls as Congress intended. ACLPI notes that EPA proposes to achieve this by 1) lowering the threshold for de minimis for MSM categories; and 2) requiring re-analysis of any measures garnered from other areas that were rejected during the BACM analysis because they could not be implemented by the BACM implementation deadline. ACLPI asserts that this proposal is flawed because 1) there is no de minimis exception to the MSM requirement and 2) states are not allowed to reject a BACM because it cannot be implemented by the BACM implementation deadline (citing *Delaney v. EPA*, 898 F.2d 687, 691 (1990) in support of this contention), thus EPA's interpretation of the Act would not result in the adoption of additional control measures beyond those already adopted as BACM.

**Response:** First, as discussed in response to a previous comment (see page 390), we believe that the Act does allow a de minimis exemption from the MSM requirement. Second, as we discuss below, the absolute nature of the BACM implementation deadline allows states to reject measures as BACM if they cannot be implemented by that deadline.

Section 189(b)(2) requires that BACM be implemented by no later than four years after an area is reclassified to serious. This implementation deadline is crucial in determining what constitutes BACM under section 189(b)(2). If a state cannot begin implementing a measure by the mandated deadline, then the measure is not a technologically feasible measure for meeting the BACM requirement and a state may reject it on this ground. ACLPI argues, based on *Delaney*, that if a measure cannot be implemented by the BACM implementation deadline, it is still BACM if can be implemented "as soon as possible" thereafter. ACLPI's reliance here on *Delaney* is misplaced.

In *Delaney*, the court was reviewing the appropriate attainment deadline for the carbon monoxide air quality standard in a plan prepared *after* the then-applicable statutory attainment deadline of December 31, 1987. *Delaney* at 689. The court determined the appropriate deadline for a requirement whose statutory deadline had passed and where Congress had not established a new one is "as soon as possible."<sup>13</sup> *Id.* at 691. Prior to the applicable statutory deadline, the court found that we have no discretion to make exceptions to it unless Congress expressly gives us authority to do so. *Id.* at 690.

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<sup>13</sup> In applying this standard, we have interpreted "as soon as possible" to be the same as "as expeditiously as practicable." See, for example, 63 FR 28898, 28900 (May 27, 1998) (15 percent rate-of-progress federal implementation plan for the Phoenix area).

Our PM-10 guidance assumes that a state is preparing its serious area plan in advance of its BACM implementation deadline, as is the case here.<sup>14</sup> In this situation, a state must show that it will implement BACM by the prescribed deadline in order to meet the BACM requirement in CAA section 189(b)(2). Because the deadline is absolute, the state does not have the option to show compliance with the BACM requirement by demonstrating implementation as soon as practicable after that deadline. Given this, the inability to implement a measure by the BACM deadline is clearly a valid reason for rejecting a measure as BACM.

ACLPI's position, that states are not allowed to reject a BACM because it cannot be implemented by the BACM implementation deadline, would effectively allow states to ignore that deadline in favor of a target that a state should try--but is not required--to meet. Thus it is ACLPI's and not EPA's interpretation that clearly conflicts with the Clean Air Act's BACM and MSM requirements.

As we noted before, states that have already gone through the process of identifying and adopting BACM for their significant sources have almost certainly evaluated the most effective controls from other areas; that is, they have already done the equivalent of a MSM analysis in the process of meeting their BACM requirement. It is only by requiring states to look at MSM for source categories exempted from the BACM requirement and to re-evaluate MSM rejected during the BACM analysis, that we can reasonably assure that the MSM requirement will result in the adoption of additional control measures beyond those already adopted to meet the section 189(b)(1)(B) BACM requirement.

**Comment:** ACLPI argues that EPA's proposed de minimis exception violates the Act's requirement that states seeking an extension demonstrate attainment by the most expeditious alternative date practicable because it allows EPA and the states to reject otherwise available control measures based on an arbitrary de minimis test even if the aggregate effect of implementing MSM on all de minimis sources would hasten attainment. ACLPI further argues that a de minimis exemption, even if allowed under the Act, cannot possibly justify the rejection of controls that have the potential for producing attainment of public health standards more quickly and EPA's proposal to determine an appropriate de minimis level by determining whether applying MSM to proposed de minimis source categories would "meaningfully hasten

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<sup>14</sup> Arizona developed and adopted its serious area plan prior to its BACM implementation deadline of June 10, 2000 and is required to show it met that deadline in order to show that it met the BACM requirement in CAA section 189(b)(2).

attainment” is vague and fails to comport with the Act. ACLPI asserts that EPA fails to explain in the rulemaking what is considered a meaningful hastening of attainment. ACLPI disagrees that the Act gives EPA discretion to exempt states from adopting MSM where the hastened attainment that would result from adoption of these measures fails to meet EPA’s definition of meaningful. Finally, ACLPI states that the Act requires attainment by the most expeditious alternative date practicable and through the use of the term date, Congress indicated that states must adopt all feasible MSM that either alone or together hasten attainment by even one day.

**Response:** ACLPI misstates the scope of the MSM de minimis exemption. We do *not* consider a source category or groups of source categories to be de minimis if applying MSM to it or to them would hasten attainment. We stated this clearly in both the proposal for the annual standard provisions and for the 24-hour standard provisions: 65 FR 19964, 19969; 66 FR 50252, 5058327.

In *Ober II*, the Court found:

Using the [attainment] deadline to determine whether controls must be imposed makes sense. The deadline is not an arbitrary date unrelated to air quality concerns. . . . In this case, the [plan] concludes that the deadline will not be met even if these small sources of PM-10 were controlled. Under those circumstances, it is reasonable to decline to control the de minimis sources of pollution.

*Ober II* at 1198.

In interpreting the MSM requirement to allow exemptions on de minimis grounds, we are also using the applicable attainment date to determine whether controls should be imposed. At the time a state submits its application for an attainment extension, (including the showing that its plan includes MSM), it must also submit a demonstration that attainment will occur by the "most expeditious alternative date practicable." See CAA section 188(e). If it can be shown that including a certain set of potential MSM would not result in more expeditious attainment, then it is consistent with the Act to not require their inclusion as a condition of approval.

What constitutes “meaningfully hastening attainment” depends on the actual PM-10

conditions in the nonattainment area and the particular PM-10 standard under consideration.<sup>15</sup> Because of this dependence, we cannot in policy specify a time period that is appropriate in all situations. We can propose the appropriate time period only within the context of acting on a specific extension request. For today's rulemaking, the plan did not invoke a de minimis exemption for evaluating MSM; therefore, we did not need to propose the time period we would consider meaningful for evaluating its de minimis exemption.

**Comment:** ACLPI argues that EPA's proposed methodology for determining MSM is flawed because it apparently does not require states to quantify expected emission reductions from measures for purposes of making MSM demonstrations. EPA defines a most stringent measure as the maximum degree of emission reductions that has been required or achieved from a source or source category." Its proposed guidance instructs states to determine MSM by comparing the potentially most stringent measures for each significant source category against the measures, if any already adopted for that source category." The only way to determine which measures provide the maximum degree of emission reductions and thus meets the MSM definition, is to quantify the emission reductions that can be achieved by each measure to see which provides the maximum amount of reduction. Any approval of an MSM demonstration not supported by quantification of emission reductions would be arbitrary and capricious because it would fail to demonstrate, except through sheer speculation, whether the measure adopted achieves the maximum degree of emission reductions.

**Response:** We do not believe that quantification is always necessary or possible or can always be done accurately enough to be meaningful and therefore cannot be required as the sole means of determining relative stringency. Often, control measures are easily comparable without quantification.<sup>16</sup> In these cases, quantification adds no additional information and is unnecessary. In other cases, quantification is not possible or cannot be done accurately enough because there is no methodology and/or insufficient data to calculate the difference in emissions reductions between measures.<sup>17</sup>

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<sup>15</sup> This is similar to the de minimis thresholds which we also cannot specify in advance because they too must be set based on the actual PM-10 conditions in the nonattainment area and the particular PM-10 standard under the consideration. See *Addendum* at 42011.

<sup>16</sup> For example, no quantification is necessary to determine that a control measure requiring the paving of all roads with traffic greater than 150 trips per day is more stringent than a control measure requiring the paving of all roads with traffic greater than 250 trips per day.

<sup>17</sup> For example, there are no technical means to accurately calculate the difference in emission reductions between a "no visible emissions at the property line" limit and a "no more than 20 percent opacity at all locations" limit. We give other examples in responses to other

Because quantification is often problematic, we have not established in our policy on the MSM provision a specific method that must be used to compare the stringency of measures, rather we expect a state to select the best method for making this comparison on a case-by-case basis taking into account the need to provide a clear and conclusive demonstration. See 66 FR 50252, 50284.

**Comment:** ACLPI expresses concern about EPA's statement that if a new control measure on a source cannot be integrated with existing controls without reducing or delaying the emission reductions from the existing controls, then EPA would not, in general, consider the measure to be technologically feasible for the area. ACLPI states that this approach may be appropriate in some cases but not where the amount of new control would exceed the amount of reductions lost from interference with the existing controls given the Act's central mandate for attainment of the NAAQS as expeditiously as practicable.

**Response:** We would agree that where the emission benefit of the new measure is substantially greater than the existing measure, it should be considered technologically feasible. However, we do not agree that where the emission benefit is small, the measure should be considered technologically feasible, because underlying the mandate for expeditious attainment is the requirement for reasonable further progress. This requirement is not served by delaying or reducing emission reductions if there is no substantial long-term benefit.

We note that the Phoenix serious area plan rejects no potential most stringent measures on this basis, so we are not applying this policy in this rulemaking.

**Comment:** ACLPI disagrees with EPA's interpretation of the phrase "to the satisfaction of the Administrator" in section 188(e). Specifically, ACLPI rejects the notion that by using this phrase, Congress intended to grant EPA discretion to accept an MSM demonstration even if it falls short of having every MSM possible because this interpretation contradicts the express language of section 188(e) as well as the requirement that the area achieve attainment by the most expeditious date practicable. ACLPI argues that the Act uses the phrase to grant EPA the authority to determine whether a state has adequately demonstrated that its plan includes the most stringent measures that are feasible, not to give the agency carte blanche to circumvent the will of Congress by ignoring the State's failure to meet this requirement.

**Response:** First, the Act does not require states to adopt every possible MSM. There is nothing in the express language of section 188(e) that requires such an outcome. The MSM requirement in section 188(e) is not phrased as "all most stringent measures" or as "every most stringent measure possible."

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comments that can be found in this TSD.

Our interpretation of the MSM requirement is consistent with how we have historically interpreted the general RACM requirement in CAA section 172(c)(1), a requirement that does use the word “all.” This section requires that nonattainment area plans “provide for the implementation of *all* reasonably available control measures...”. (emphasis added). In interpreting this requirement, we have long held that a state is not obligated to adopt and implement measures that will not contribute to expeditious attainment.<sup>18</sup> We established this position in a policy that predates the CAA Amendments of 1990. 44 FR 20372, 20375 (April 4, 1979). Congress did not revise the RACM requirement in the 1990 Amendments and thereby endorsed our position. We reaffirmed this position in the *General Preamble* at 13560.

This position has also been endorsed in *Ober II* in the specific context of the section 189(a) RACM requirement:

Using the [attainment] deadline to determine whether controls must be imposed makes sense. The deadline is not an arbitrary date unrelated to air quality concerns. . . . In this case, the [plan] concludes that the deadline will not be met even if these small sources of PM-10 were controlled. Under those circumstances, it is reasonable to decline to control the de minimis sources of pollution.

*Ober II* at 1198.

We are interpreting the MSM requirement using the same principle. We are again using the applicable attainment date to determine whether the MSM provision requires a particular control or set of controls to be imposed. Before we can grant an attainment date extension, the state must show that its plan will result in attainment by the “most expeditious alternative date practicable.” See CAA sections 188(e) and 189(b)(1)(A)(ii). If a state can show that including a certain set of potential MSM would not result in more expeditious attainment, then it is reasonable and consistent with the Act not to require their inclusion as a condition of approval.

Second, Congress did not need to add the phrase “to the satisfaction of the Administrator” to grant us the authority to review the adequacy of a state’s MSM demonstration. It had already given it to us by granting us the discretionary authority under section 188(e) to grant or to deny a state’s extension request. By attaching the phrase specifically to the MSM requirement, Congress emphasized EPA’s administrative authority to determine an appropriate interpretation

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<sup>18</sup> We would not consider a measure to be reasonable if it does not contribute to expeditious attainment. See *General Preamble* at 13560, 63 FR 15920, 15932 (April 1, 1998) (proposed Phoenix area PM-10 FIP), and 66 FR 26913, 26929 (May 15, 2001) (approval of the Beaumont/Port Arthur ozone nonattainment area plan). Similarly, for the purposes of the MSM requirement, we would not consider such a measure to be feasible for the area.

of what is conceivably a very open-ended and exacting requirement.

Finally, in reviewing whether Arizona has appropriately excluded an otherwise feasible measure or group of feasible measures in its MSM analysis, we have invoked only one criterion: whether or not the measure or group of measures are necessary for attainment by the earliest alternative date practicable. Given that this is our sole criterion, our interpretation of “to the satisfaction of the Administrator” does not conflict with the Act’s requirement for attainment by the earliest alternative date practicable.

### Evaluating Stringency

**Comment:** ACLPI disagrees that where multiple measures apply to a single source category, EPA can compare the “impact of the overall control strategy on emissions” in the nonattainment area versus other areas rather than comparing individual measures within the source category. ACLPI argues that the Act clearly requires inclusion of the most stringent measures in the plan of an area seeking an attainment date extension and does not allow EPA to settle for the most stringent overall control strategy and that the reason for this is clear, the overall control strategy of a comparison area may achieve less in emission reductions than the overall strategy of the nonattainment area under consideration but the comparison area’s implementation plan could contain specific measures, which when added to the nonattainment area’s strategy, would result in even further reduction. ACLPI claims that EPA’s proposed approach would violate the Act’s requirements that serious areas seeking an extension of the attainment deadline demonstrate attainment by the most expeditious date practicable.

**Response:** ACLPI included this comment in its letter regarding the annual standard proposal. In our subsequent proposal for the 24-hour standard, we clarified what we meant by this provision. See 66 FR 50252, 50584.

1. If there is only a single control measure applicable to a source category, then we will compare the measures directly.
2. If there are multiple control measures with diverse control requirements applicable to a source category (e.g., tailpipe emissions are controlled through fuels, emission standards, inspection and maintenance programs, and transportation control measures), then we will compare measures with similar control requirements against one another, that is, we would compare fuels against fuels, emission standards against emission standards, etc.<sup>19</sup>

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<sup>19</sup> In practice, some consideration has to be given to how various controls will interact because some types of control requirements make other types less effective or meaningless. For example, programs to encourage turnover of engines make no sense unless the newer engines are

3. If several measures apply the same or very similar control requirements to a source category, that is they have the same control requirement but different applicabilities, then we will use the collective stringency of all the measures in the stringency analysis.

Because controls on source categories can be imposed by more than one agency and/or level of government at the same time, it is important to look at the overall control strategy on a source category to determine the level of control on that category. In many cases the control requirements established by one agency are different (e.g., federal tailpipe emission standards and state inspection and maintenance programs) and the controls need to be evaluated individually and not collectively. However, for many fugitive dust sources (e.g., unpaved roads, vacant lots, unpaved parking), the control requirements can be the same or very similar (e.g., pave, stabilize, prevent or limit access) but have different applicabilities. In these cases, we do need to look at how control measures collectively impact the category before we can determine if another area's controls are more stringent. For example, Area A had adopted a rule that requires paving of all roads with 150 ADT or more but has no other program for paving roads. Area B, which is seeking the extension, has adopted a rule that requires paving of all roads with 250 ADT or more and its local jurisdictions have committed to pave any road with ADT between 100 and 250. If we were to compare just the area's rules, then Area B would be forced to adopt Area A's rule even though Area B's road paving program is clearly more stringent.

**Comment:** ACLPI states that it does not believe that EPA can review all the elements of a rule that apply to a specific type of source as an inseparable measure because this approach depends entirely on a state arbitrary clustering of control measures into a rule, and violates the Act's mandate of expeditious attainment because it would allow states to reject feasible measures that would hasten attainment. ACLPI then goes on to state that this position represents a departure from prior EPA guidance for which the agency has failed to provide a rational explanation claiming that EP has long interpreted the Act as making a clear distinction between control measures on the one hand and the permits or rules through which those measures are implemented on the other, citing the General Preamble at 13541 ("When the process of determining RACM is completed, the individual control measures should then be converted into a legally enforceable vehicle (e.g., a regulation or permit program....").

**Response:** We believe that this comment results from differences in our and ACLPI's interpretations of what the term "[control] measure" means in the context of the MSM requirement:

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cleaner; speed limits on unpaved roads make no sense if the roads are going to be paved; requiring add-on controls makes no sense if sources have changed their manufacturing process to eliminate emissions; limits on the sulfur content of fuel oil make no sense if sources are required to burn only natural gas.

In general, an adequate rule (and permit) will include five elements:

1. *statement of applicability* -- a statement of what sources are covered by the rule and what sources are exempted
2. *definitions* -- definitions of terms used in the rule
3. *control requirement* -- the emission limitation, add-on control requirement, required control technique, work practice standard, or any other requirement intended to reduce emissions from the source. A control requirement may also be a requirement that a source select one or more control techniques from a menu of options.
4. *monitoring requirement* -- the record keeping, reporting, and other source monitoring requirements
5. *compliance deadline* -- the date when the source must comply with the control requirement

The level of control (stringency) that a rule imposes on a source category, is determined primarily by a combination of the rule's applicability and its control requirement, that is, who in the source category is subject to the rule and what the rule requires them to do to reduce emissions. When we use the term "measure" in the context of the RACM, BACM, and MSM requirements, we are referring to this combination. From its comments, we believe ACLPI, when it uses the term "measure," is referring to just the control requirement.<sup>20</sup>

Our definition of measure is the only one that makes sense for the MSM provision where states are looking for the most stringent measure that has been adopted or imposed elsewhere. Because a rule's adopted or imposed stringency is dependent on both its applicability and its control requirement, these two provisions cannot be separately considered in the MSM analysis. In fact, to do so would be tantamount to rewriting the rule and changing its stringency.

ACLPI is correct that states often use a single rule to regulate a number of different

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<sup>20</sup> The following example illustrates the effect of this difference in meaning. A rule requires all unpaved roads with ADT over 150 be stabilized by either paving, graveling, or chemical stabilization. We consider the combination of the control requirement here: "stabilize using one of these three methods: paving, graveling, or chemical stabilization" and the applicability here "all unpaved roads with ADT over 150" together to be the control measure. We believe ACLPI would consider there to be three control measures in this rule: paving, graveling, and chemical stabilization.

source categories. In this situation, a state looking for the most stringent measure for a given source category must take apart each rule to determine just what constitutes that rule's control measure for the source category of interest. Thus, it does not matter that states group control measures for various sources into a single rule because in a MSM analysis, the rules will need to be deconstructed anyway in order to identify the control measures in them.

Contrary to ACLPI's assertion, we have not departed from previous EPA policy. We believe that in determining the stringency of a control measure for the purposes of the MSM analysis, we should not consider whether the control measure was established in a rule, commitment, or a permit or whether the measure has been adequately funded, enforced, or expeditiously implemented by the agency charged with its implementation. Stringency is simply a matter of the control requirement and its applicability. However, once the area requesting the extension determines that a control measure is more stringent than its existing measure, our policy and the CAA continue to require that the area convert that measure into a legally enforceable format and provide for adequate funding, enforcement, and expeditious implementation. See 65 FR 19964, 19968 ("provide for the adoption and expeditious implementation of any MSM that is more stringent than existing measures....") and CAA section 110(a)(2)(A) and (a)(2)(E)(i).

**Comment:** ACLPI comments that EPA's refusal to consider a measure's implementation mechanism, funding level, compliance schedule, test method, resources available for enforcement, etc. as criteria for judging stringency violates its own definition of most stringent measure as well as common sense because the maximum degree of emission reduction to be achieved from a measure and thus its stringency is necessarily defined in part on how and to what extent the measure is implemented.

**Response:** In the MSM analysis, we believe a measure's stringency should be determined assuming that it is and will be appropriately adopted, implemented and enforced. To do otherwise would allow areas to forgo a measure with more stringent requirements because it has not been properly implemented elsewhere.<sup>21</sup> However, once a state determines that a measure is more stringent, then it must adopt it and provide for its implementation by assuring it is adequately enforceable and providing the necessary resources.

We agree that, in practice, the amount of emission reductions to be achieved from a measure depends in part on how well the measure is implemented in an area. We take factors such a funding level, test methods, etc. into account when we evaluate whether to approve a measure into the SIP and/or in order to determine the amount of emission reductions to credit it

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<sup>21</sup> In other words, just because an otherwise most stringent measure has been poorly implemented in one area should not jeopardize the measure's adoption in another area.

in a RFP and/or attainment demonstration.

***Comments on EPA's Detailed Evaluation of the Phoenix Serious Area PM-10 Plan***

Base year PM-10 Emissions Inventory

**Comment:** ACLPI disagrees that the Phoenix serious area plan meets the requirements for a comprehensive, accurate and current inventory of actual emissions from all sources of PM-10, arguing that it is not current because 1994 is not a current year and it is not comprehensive and accurate because the ambient monitoring network does not properly monitor the impact of stationary sources.

**Response:** To evaluate whether the selected base year is current for the purposes of this plan, we must review it in the context of the plan's preparation. The base year emissions inventory is the foundation for any nonattainment plan and the first piece that must be prepared. The rest of the plan--the modeling, control measure analysis, attainment demonstrations, etc.--all are derived from or depend on the base year emissions inventory; therefore, it must be developed and fixed early in the planning process.

The Phoenix area was reclassified from moderate to serious in May 1996. The reclassification established the date for submittal of the serious area plan at 18 months after the reclassification, December 1997. CAA section 188(b)(2) and 61 FR 21372, 21373 (May 10, 1996). In order to develop its attainment demonstration, which must be based on air quality modeling, MAG needed to take the base year inventory, revise it for input to the modeling, develop the model and validate it, evaluate potential controls, select and gain commitments for those controls, and then model the effectiveness of those controls on air quality. This process is a lengthy one. To make the December 1997 deadline, MAG needed to start development of the plan in early 1996.<sup>22</sup> Inventories themselves take about one year to develop, so 1994 is the most current year that the Phoenix serious area plan could have used. Therefore, we believe that 1994 is a current base year for this plan given that the technical analysis for it started in 1996 and that the base year inventory was the necessary starting element for this analysis and thus needed to be available in early 1996.

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<sup>22</sup> The fact that the final, complete plan was not submitted until June 1999 (and subsequently revised and resubmitted in February 2000) does not negate this analysis. The plan was not submitted in December 1997 because the modeling analysis showed that the State needed to apply for an extension under section 188(e) and that substantial additional work needed to be done to support the extension request. This additional work however, did not include starting the entire planning process over again from scratch..

The ambient air quality networks required by EPA regulation are used to determine the concentration of a pollutant in the air. This monitoring, however, is not and cannot be used to determine the emissions from an individual source or source category. As a result, the accuracy of the inventory is not affected by any alleged deficiencies in the network. See also, the response to third comment in the section on ambient air quality monitoring below.

**Comment:** ACLPI asserts that the inventory once again fails to account for the vast disparities seen in inventories based on receptor modeling versus those based on theoretical emission factors, giving as an example the inventory submitted by Arizona in its 1991/93 moderate area SIP showing vehicular emissions constituting 36 percent of total emissions. ACLPI asserts that the same sources amounted to only 8 percent of the inventory in EPA's 1997 FIP and now is down to 3.3 percent and that neither MAG nor EPA offers any explanation for this precipitous decline in estimated PM-10 emissions from vehicular exhaust and that an explanation is in order given the plan's reliance on the purportedly small contribution of mobile source to the inventory to exclude additional controls on these measures.

**Response:** ACLPI made very similar comments on the PM-10 FIP which used the same 1994 regional emission inventory as part of its technical support. At the time we promulgated the FIP, we provided a lengthy response to ACLPI's comments including a detailed explanation for the disparities between a regional inventory based on emission factors and an inventory based on receptor modeling. See "Technical Support Document for U.S. EPA's Final Federal Implementation Plan for the Phoenix Nonattainment Area, Response to Comments Document," Air Division, Region 9, July 17, 1998, p. 65. We repeat and expand on that response here.

A. *Receptor modeling cannot be used to determine the inventory for an area as large and as diverse as the Phoenix PM-10 nonattainment area.* The inventory in the 1991/93 PM-10 moderate area plan is a 1989 regional inventory that was prepared using the same methodology as the 1994 inventory and then modified ("normalized") to reflect a 1989-1990 source apportionment. See moderate area plan, pp. 9-32 to 9-42. The source apportionment was the percent contribution from various emission sources to the monitored ambient concentrations, at three urban Phoenix monitors: Central Phoenix, West Phoenix, and South Scottsdale. The source apportionment was determined by using Chemical Mass Balance (CMB) receptor model and monitored speciated data.<sup>23</sup> This modeling only determined the source apportionment, it did not determine emission levels. The normalized emission levels were calculated by taking the regional inventory total (which was determined through standard emissions inventorying techniques) and multiplying it by the percent contributions from the urban monitors. Because the

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<sup>23</sup> Receptor modeling can only provide the percent contribution of sources to ambient concentrations. It cannot provide the sources' actual emission rates, that is, it cannot tell us how many tons per day are being emitted from each source.

normalized inventory in the 1991/93 plan underwent this additional step, it is not directly comparable to the 1994 inventory.

The 1994 regional emissions inventory was prepared following the procedures in EPA guidance, using either EPA emission factors or other appropriate emission factors combined with Phoenix-specific activity data to estimate emissions from each type of emissions source. This approach is the customary method used for preparing regional emissions inventories and the one required by EPA guidance. See *PM-10 Emissions Inventory Requirements*, EPA, OAQPS, EPA-454/R-94-033 (September, 1994).

As work has been done to evaluate the nature of the PM-10 problem in Phoenix, it has become increasingly clear that PM-10 exceedances in 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 only reflects the relative significance of sources around those monitors rather than about the relative significance of sources on a regional basis.<sup>24</sup>

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 our 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 settles quickly to the ground within a short distance from the source. See 62 FR 31025, 31030. Consequently, it would be surprising to see a substantial contribution from fugitive dust sources at urban monitors where the area is already fully developed and there are few fugitive dust sources, such as vacant lots, construction sites, or unpaved roads.

The source apportionment at urban monitors is much more influenced by local sources

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<sup>24</sup> We can present a graphic example of this. During its analysis of a 24-hour exceedance at the Gilbert monitoring site, ADEQ concluded that 26 percent of the exceedance was due to agricultural field aprons, 24 percent was due to unpaved parking lots, 7 percent from vacant disturbed lands, 1 percent from unpaved roads, and 42 percent from all other sources. See microscale plan, p. 18 (concentrations converted to percentages). If we used this source apportionment to determine the regional inventory for Phoenix, then we would need to conclude that 26 percent of all emissions in the Phoenix area come from agricultural field aprons, 24 percent from unpaved parking lots, 7 percent from vacant disturbed lands, 1 percent from unpaved roads, and 42 percent from all other sources combined (that is, from construction, paved road dust, industrial activities, nonroad engines, on-road engines, etc.). This distribution of emissions is nonsensical given even a basic knowledge of the Phoenix area.

such as paved road dust and by regional fine particulate sources such as vehicle exhaust which tend to remain suspended in ambient air for longer distances. This is exactly the source apportionment seen at the three urban monitors used to generate the 1991/93 Plan normalized inventory. As a result, it is not surprising to see that the normalized inventory in the 1991/93 plan is 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 normalized inventory where fugitive dust sources account for only 3 percent of the total regional PM-10 emissions in that inventory, a contribution that does not tally with the number of fugitive dust sources in the Phoenix area and the emission rates of these types of sources.

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.<sup>25</sup> 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 very unlikely to result in a regional inventory that correctly accounts for fugitive dust emissions.<sup>26</sup>

*B. The regional inventories in the 1991/93 Plan and the serious area plan are consistent.* The 1991/93 plan does include a 1989 regional emissions inventory that was prepared in the same manner as the 1994 regional inventory; that is, by using emission factors and Phoenix-specific activity data. This inventory, rather than the normalized inventory, is directly comparable to the 1994 inventory. When this comparison is made, the inventories demonstrate essentially the same source distribution. See Table EI-8.

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<sup>25</sup> 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.

<sup>26</sup> Moreover, because such an approach would only reflect emission sources close to the selected monitor or monitors and not throughout the entire nonattainment area, it would conflict with the requirement in CAA section 172(c)(3) for a comprehensive and accurate inventory of *all* emission sources in the nonattainment area.

<b>TABLE EI-8</b> <b>COMPARISON OF 1989 REGIONAL PM-10 INVENTORY</b> <b>AND 1994 REGIONAL PM-10 INVENTORY</b>		
<b>CATEGORY</b>	<b>1989 PERCENTAGE OF NON-WINDBLOWN ANNUAL INVENTORY</b>	<b>1994 PERCENTAGE OF NON-WINDBLOWN ANNUAL INVENTORY</b>
Paved road dust	32.8	39.7
Unpaved road dust	28.9	22
Construction/earthmoving	13.7	20.3
Agricultural operations	12.6	4.2
Wood burning	0.7	0.6
Gasoline on-road vehicles	3.3	0.7
Diesel on-road vehicles	4.9	2.8
All nonroad	1.2	6.2
All other	1.9	3.5
Total Inventory	40,975 english tons/year	51,545 metric tons/year <sup>27</sup> (56,700 english tons/year)

Sources: Moderate Area plan, p. 9-22 and 1994 Regional PM-10 Inventory, p. 2-3

The difference in total annual emissions between the two inventories is almost all due to greatly increased estimates of paved road dust (which increased 9,100 eng tons/year), construction-related dust (which increased 5,900 eng tons/year) and nonroad mobile sources (which increased by 3,100 eng tons/year). The differences between the two inventories reflect first, the different base year (1989 versus 1994) and second, and more importantly, greatly improved inventorying techniques including the release of PART5, EPA model for calculating on-road motor vehicle emissions including paved road dust, and the availability for the first time of a comprehensive national inventory of nonroad engines.

<sup>27</sup> The 1989 inventory is in english tons while the 1994 inventory is in metric tons. One metric tons is equal to 1.1 english tons.

Even with these changes in inventory techniques, these two inventories draw the same conclusions regarding the relative importance of sources to the overall PM-10 inventory. Both consider paved road dust, unpaved road dust, construction, and agricultural operations in that order to be the dominant sources of PM-10 emissions in the Phoenix area with these four categories collectively contributing 88 percent of the inventory in 1989 and 86.2 percent in 1994. Similarly, the total contribution from on-road vehicles and nonroad engines to the overall inventory remains relatively constant between 1989 (9.4 percent) and 1994 (9.7 percent).

**Comment:** Don't Waste Arizona (DWA) contends that MCESD has no credible method of gathering the data necessary to establish the base emissions inventory of PM-10 sources and thus the inventory it developed is not a comprehensive, accurate, current inventory of actual emissions from all sources as required by CAA section 172(c)(3).

**Response:** MCESD uses a number of methods to gather emission inventory data including its annual emission inventory questionnaire requirement (MCESD Rule 100, section 508), inspection reports, record keeping and monitoring reports, and source surveys. It also has access to considerable economic data developed by other Arizona state and local agencies which it uses in combination with EPA emission factors to estimate emissions from certain source categories. All these methods represent standard inventorying techniques and are consistent with EPA's policies for developing comprehensive, accurate, and current emission inventories. See *PM-10 Emissions Inventory Requirements*, EPA, OAQPS, EPA-454/R-94-033 (September, 1994).

#### Ambient Air Quality Surveillance

**Comment:** ACLPI disagrees with EPA's statement that the Act does not require the metropolitan Phoenix serious area plan to address the adequacy of the PM-10 monitoring network, asserting that section 110(a)(2)(B)(i) specifically mandates this.

**Response:** Section 110(a)(2)(B)(i) requires implementation plans to provide for the establishment and operation of a system to monitor, compile and analyze data on ambient air quality. These systems must necessarily be in place and operating long before a state can develop a nonattainment area plan under title I, part D of the Clean Air Act (such as the Phoenix serious area plan) because it is the data from this monitoring network which establish the area's nonattainment status and its initial classification as well as the degree of control it needs to attain. Therefore, SIP monitoring provisions are addressed separately from and well in advance of the development of nonattainment area plans.

Under our monitoring regulations (40 CRF part 58), states are required annually to prepare and submit network evaluation reports. These reports describe the monitoring network and how it meets our regulations. We use these annual reports to assure that state and local

ambient air quality monitoring networks meet our regulations and the CAA. Annual reporting is necessary because networks need to be dynamic and sites may need to be relocated over time as changes in demographics and emission source locations occur in the planning area. Through this reporting and on-site visits, we maintain close oversight of a state's monitoring networks.

Nonattainment area plans are not, in general, required to address how the area's air quality network meets our monitoring regulations. Nor do we generally approve or disapprove monitoring networks as part of nonattainment area plans. These plans are submitted too infrequently to serve as the vehicle for assuring that monitoring networks remain adequate and current. We discuss the adequacy of the monitoring network as part of our proposed action on the Phoenix plan to support our finding that the plan appropriately evaluates the PM-10 problem in the area. Reliable ambient data is necessary to validate the base year air quality modeling which in turn is necessary to assure sound attainment demonstrations. The network, however, does not need to meet all our regulatory requirements to be found adequate to support air quality modeling. A good spatial distribution of sites, correct siting, and quality-assured and quality-controlled data are the most important factors for assuring adequate data for air quality modeling.

**Comment:** ACLPI comments that EPA fails to offer an adequate justification for exempting the County from EPA's monitoring requirements, noting that the County does not meet two of the monitoring objectives laid out in those requirements: to determine the extent of regional pollution transport among populated areas and to determine the welfare-related impacts in more rural and remote areas.

**Response:** As explained in the response to the previous comment, we are neither approving nor disapproving the monitoring network for Maricopa County. Rather we are simply determining if the network is adequate to support the air quality modeling that underlies the attainment demonstration. This determination does not depend on whether the network fully meets EPA's monitoring regulations, but on whether it is sufficient to adequately characterize PM-10 air quality in the Phoenix nonattainment area. We have found it to be. This finding in no way exempts the County from EPA's monitoring regulations; we still require that the County meet those regulations.

We note that the Maricopa County PM-10 monitoring network is but one network within the State of Arizona. ADEQ and Pinal County also operate PM-10 monitors, including monitors in rural and remote areas to the south, east and north of the Phoenix nonattainment area and between the two major population centers in Arizona: Phoenix and Tucson. ADEQ also operates a visibility monitoring network; visibility impairment being the most significant welfare effect of PM-10. More information on ambient air quality monitoring in Arizona can be found in Appendix I of ADEQ's Annual Report 2000 at [www.adeq.state.az.us/comm/pubs/ar.html](http://www.adeq.state.az.us/comm/pubs/ar.html).

**Comment:** ACLPI comments that Maricopa County has one site, the Salt River Site, devoted to monitoring significant stationary sources of directly-emitted PM-10 even. It asserts that there are numerous other areas where stationary sources have an impact on ambient air quality and that permitted [emission] levels are an unreliable measure where there is no independent means to verify the stationary sources are complying with those limits and the failure of Maricopa County to adequately monitor stationary sources casts significant doubt upon the accuracy of the estimated stationary source contribution to the PM-10 emission inventory.

**Response:** The ambient air quality networks required by EPA regulation are used to determine the concentration of a pollutant in the air. This monitoring, however, is not and cannot be used to determine the emissions from an individual source or source category.<sup>28</sup>

For an emissions inventory, we determine how much a source emits of a pollutant in a given time period, e.g., tons per day, pounds per hour. In ambient monitoring, we determine the concentration of pollutant in air, e.g., micrograms per cubic meter ( $\mu\text{m}/\text{m}^3$ ), parts per million (ppm). We can predict the effect of a source's emissions on ambient air quality by using air quality modeling; however, we have no tools to determine a source's emissions from ambient monitoring.

A source's impact on air quality at any given time is dependent, not only on its emissions rate, but also on factors such as the height at which the emissions are emitted, the speed at which they are emitted, the size distribution of the particulate emitted, its distance from the monitor, and most importantly, meteorological conditions at that time. For example, the windier it is, the more rapidly and more widely a source's emissions are dispersed into the air and the lower its impact on ambient air quality. So, even if we were able to isolate a single source's impact on air quality through ambient monitoring, we could not determine its emissions rate without knowing, at a minimum, the actual meteorological conditions. Moreover, the calculation of a source's emissions would be highly dependent on the assumptions regarding these conditions, resulting in a high degree of uncertainty in any emissions estimate.

Because we cannot use general ambient monitoring to determine emissions from individual sources, deficiencies in a monitoring network do not affect the quality of the emissions

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<sup>28</sup> The confusion may arise because large stationary sources are generally required to "monitor" their emissions. This type of monitoring is different from ambient air quality monitoring. Stationary source monitoring can be done in several different ways including continuous emissions monitoring in stacks, keeping records that allow emission rates to be calculated, and source testing. For examples of the variety of stationary source monitoring methods, see the definition of "monitoring" in 40 CFR part 64 "Compliance Assistance Monitoring" published at 62 FR 54900, 54941 (October 22, 1997).

inventory.

**Comment:** DWA comments that the PM-10 network needs to be expanded and updated before the plan is approved, contending that there are areas of stagnant air where there are excess concentrations of particulates which are not being monitored.

**Response:** We have worked and will continue to work with MCESD and ADEQ to assure there is an adequate and representative monitoring network in the metropolitan Phoenix area. This work includes establishing new monitoring sites when necessary. However, even the best monitoring network cannot monitor in every location that has the potential to exceed the standards. Because of this limitation, great effort is put into establishing monitor sites that are similar to and thus representative of other unmonitored sites in an area.

**Comment:** DWA writes that 1995 ambient data is too outdated to be credible and useful.

**Response:** The 1995 ambient data was used to validate the base year air quality modeling in this serious area plan. The year 1995 is an appropriate year for this plan given that the area was reclassified to serious in May of 1996 and the deadline for submitting the final, adopted plan was December of 1997. MAG started work on the plan even before the final reclassification, in May 1996; the latest complete year of ambient data was 1995.

We note that any future determinations regarding the Phoenix area's air quality, such as attainment determinations, will be based on the most current ambient data.

#### BACT for Significant Source of PM-10 Precursors

**Comment:** ACLPI comments that EPA cannot conclude with any degree of confidence that major stationary sources of PM-10 precursors do not contribute significantly to PM-10 levels which exceed the standards in the Maricopa County nonattainment area given the deficiencies ACLPI sees in the monitoring network.

**Response:** Placing monitors near major stationary sources of precursors would not tell us anything about those sources' impact on secondary particulate. Secondary particulate is formed in the atmosphere in a chemical reaction that takes hours before measurable amounts of particulate are formed. By the time that these measurable amounts of secondary particulate are formed, the emissions from a large stationary source would be widely dispersed and, in an urban environment, mixed with other sources of secondary particulate precursors, such as automobiles. A nitrate or sulfate molecule formed in the atmosphere from emissions from a power plant burning natural gas is indistinguishable from a nitrate or sulfate molecule formed in the atmosphere from emissions from a car burning gasoline. For this reason, it is impossible to use

routine monitoring to distinguish between the contribution from stationary sources and those from other sources in an urban environment. Hence, any alleged deficiencies in the monitoring PM-10 network in regards to monitoring stationary sources, would have no effect on the determination of whether major stationary sources of PM-10 precursors contribute significantly to PM-10 levels.

**Comment:** ACLPI asserts that there is no basis for assuming that secondary sources will contribute to secondary particulate formation in the same proportion as the source presence in the inventory, especially in light of studies showing secondary particulate formation can involve a complex series of reactions that will not necessarily produce PM levels proportionate to their contributions.

**Response:** ACLPI made this same comment on the PM-10 FIP. We fully responded to the comment at that time (see 63 FR 41326, 41329) and repeat that response here, updating it to reflect the analysis done for the proposed approval of the Phoenix serious area plan.

Given the very small presence of major stationary sources in the precursor inventory (less than 5 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. These major stationary sources are estimated to contribute less than  $0.3 \mu\text{g}/\text{m}^3$  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.

We note that the linear assumption is used here only to determine the relationship between major stationary sources of precursor emissions and their contribution to the already known secondary particulate concentrations. The linear assumption was not used to estimate the secondary particulate fraction of the total ambient concentration of PM-10. We agree that, because of the complexities of secondary particulate formation, sources of precursor emissions do not always contribute to overall PM-10 levels proportionate to their presence in the inventory.

**Comment:** ACLPI does not agree that EPA can exempt de minimis sources from the BACM requirement for the reasons stated previously and even if it did, EPA's standard for determining significant sources is inappropriate

**Response:** We have responded above and elsewhere to ACLPI assertions that the Clean Air Act does not allow a de minimis exemption from the BACM requirement and the appropriateness of the standard used to determine significant sources in the Phoenix area.

**Comment:** DWA comments that EPA lacks the data to determine if major stationary sources of

PM-10 precursors contribute significantly to overall PM-10 levels because of flaws it sees in MCESD's data on emissions.

**Response:** From our detailed review of the emissions inventory and its documentation, we do not believe there are any flaws in MCESD's emission data sufficient to prevent us from making a determination of whether major stationary sources of PM-10 precursors are or are not a significant contributor to PM-10 levels in the Phoenix area. Moreover, filter data from ambient monitoring analyzed by ADEQ show that overall secondary particulates from all sources are contribute little to overall PM-10 levels in the Phoenix area. MAG TSD, pp. III-40 and 41.

#### Implementation of BACM

**Comment:** DWA comments that the plan does not demonstrate the implementation of RACM and BACM because MCESD will not enforce the rules.

**Response:** MCESD is enforcing its dust control regulations as evidenced by their public record over the last year. Between April 2000 and December 2001, MCESD completed 9,650 inspections, and took 263 enforcement actions resulting in \$615,705 in penalties. MCESD has increased the number of staff devoted to inspections of dust control requirements from 1 to 8, in addition to adding a full-time enforcement officer and a full-time attorney to assure timely enforcement actions are taken.<sup>29</sup> In addition, MCESD has been working very closely with the regulated community to make sure that they understand the importance of the dust control regulations to public health, and why it is necessary to comply with those regulations. See *email*, Maureen Lynch, MCESD to Colleen McKaughan, EPA-Region 9 "RE: Dust course," January 14, 2002.

We have independent evidence that MCESD has in fact improved its fugitive dust enforcement program. EPA inspectors visited Maricopa County in October 2001 to visit a number of construction sites looking for dust control violations. They found no major violations of MCESD's dust rules. This compares to three years ago when our inspectors found violations at 8 of the 9 sites visited. See (EPA-Region 9) "Summary of Rule 310 Inspections Conducted with Judy Woods (MCESD Earthmoving Coordinator)," May 11, 1997.

**Comment:** DWA contends that MCESD practice is to issue permits with emission limits many times what the facility projects its emissions will actually be and that this cannot be BACT.

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<sup>29</sup> *Personal Communication*, Colleen McKaughan, EPA with Robert Evans, Manager, Air Enforcement Section and Larry Spivack, Manager, Air Compliance Section, MCESD, December 18, 2001.

**Response:** We believe the permit limits referred to by DWA are facility-wide limits taken by sources in order to become synthetic minors, that is, limits accepted by facilities to avoid major stationary source status and its accompanying new source and operating permit requirements. These types of limits are not generally set based on the effectiveness of control technology and therefore not considered BACT limits. We note that the Phoenix plan indicates that stationary sources are not significant sources and therefore not subject to the BACT requirement. We also note that we have determined that all major stationary sources of PM-10 are in fact controlled with BACT. See EPA TSD section "BACT for Significant Stationary Sources of PM-10."

**Comment:** ACLPI disagrees that the Phoenix serious area plan identifies and evaluates potential BACM because it failed to evaluate three measures that ACLPI raised in comments on the plan.

**Response:** MAG did respond to ACLPI's January 31, 2000 comment listing these three measures. See "Response to Public Comments on the Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area, January 31, 2000 Public Hearing," page 7 found in Appendix D, Exhibit 1 of the Revised MAG plan. MAG stated that many of the measures recommended for further evaluation for feasibility in the Brown Cloud Project were considered during the planning process for development of the PM-10 plan.

The three measures listed by ACLPI are: 1) encourage retrofits and replacements of nonroad diesel engines and equipment, 2) implementing a smoking vehicle identification and citation program, and 3) requiring the scrappage of old-high emitting diesel trucks. Measures similar to the second and third measures were evaluated and adopted: the smoking-vehicle hotline and the requirement that pre-1988 HDDV meet 1988 federal emission standards and the Voluntary Vehicle Repair and Retrofit program.

The plan did not include measures similar to encouraging the retrofits and replacement of nonroad diesel engines and equipment. The plan does, however, include a number of measures to address emissions from nonroad engines. We believe that these measures, combined with the federal emissions standards for nonroad engines, provide for the implementation of BACM and MSM for the nonroad engine source category.

For any diverse source category (such as nonroad engines), there are a wide range of possible control measures with an even wider range of variations for each measure. In evaluating a BACM analysis, our goal is to ensure that there has been a good faith effort to evaluate a wide range of controls for each source category. We believe that the Phoenix plan demonstrates such an effort. See EPA TSD section "BACM Analysis -- Step 3, Identification of Potential BACM Measures."

**Comment:** MAG comments that the 1994 Regional Inventory was used in the determination of

significant source categories but not as a starting point, rather the inventory was used to evaluate certain source categories to determine if they were significant.

**Response:** We have revised the TSD to reflect this use of the 1994 Regional Inventory in the BACM analysis.

#### 1. Technology Controls for On-Road Motor Vehicles

**Comment:** ACLPI asserts that the metropolitan Phoenix plan fails to provide for the timely implementation of the control measure to require pre-1988 heavy duty diesel vehicles registered in the nonattainment area to meet 1988 federal emission standards because it does not require compliance until January 1, 2004 and fails to explain why a more timely implementation is infeasible.

**Response:** The plan explains that this measure, in combination with the Voluntary Vehicle Repair and Retrofit program and natural attrition, effectively provides for earlier implementation.<sup>30</sup> See “Response to Public Comments on the MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area, May 20, 1999 Public Hearing,” page 15 found in Appendix D, Exhibit 1 of the MAG plan. The Voluntary Vehicle Repair and Retrofit program in Area A was implemented in 1999. The program is focused on older model year heavy-duty diesel vehicles. Under the program, any diesel powered vehicles over 8,500 lbs that fail roadside vehicle tests is eligible for up to \$1000 in repair or retrofit costs. MAG plan, p. 7-15.

ACLPI provides no explanation why it believes this measure is not being implemented in a timely manner; therefore, we cannot respond in any further detail to its comment.

**Comment:** ACLPI notes that EPA “fails” to provide any rational explanation for its conclusion that gasoline on-road, gasoline nonroad, diesel on-road, and diesel nonroad area all distinct categories asserting that the Agency appears to define a category of sources based on whether those sources can be controlled by the same measures, but emission from diesel on-road vehicles and diesel nonroad vehicles can be controlled with a single control measure, cleaner burning diesel fuel. ACLPI also provides an example that measures to reduce driving can be expected to affect both gasoline on-road and diesel on-road vehicle emissions.

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<sup>30</sup> This is consistent with EPA guidance. For measures that cannot be implemented in their entirety prior to the BACM implementation deadline, the *Addendum* at 42014 suggests that the BACM might be defined to change over time from a more limited set of measures at the initial implementation date to progressively tighter or more ambitious program at later dates.

**Response:** We consider the term “source categories” for which BACM is required to refer to categories of area-wide sources or large individual stationary sources of PM-10 that may be regulated under a specific rule, generic emission limit, or standard of performance. See *Addendum* at 42010, fn. 33. A source category should generally be identified by the principal control for it. For both on-road and nonroad engines, the principal type of control are emission (tailpipe) standards and not fuel standards or (for on-road vehicles) TCMs.

On-road and nonroad engines are by definition in separate categories. Under the CAA, they are defined as mutually-exclusive categories. CAA section 216(20) defines a [on-road] motor vehicle as any self-propelled vehicle designed for transporting persons or property on a street or highway while section 216(11) defines a nonroad vehicle as a vehicle that is powered by a nonroad engine and that is *not* a motor vehicle. Section 216(11), emphasis added. A nonroad engine is defined as an internal combustion engine that is *not* used in a motor vehicle.

**Comment:** ACLPI asserts that the plan fails to provide a reasoned justification for the rejection of the vehicle pollution charge measure and notes that the plan does not reject this measure as infeasible at all but rather recommends it on the conditions that additional study be conducted to determine appropriate and feasible implementation mechanisms and the measure not be implemented until after resolution of technical problems with the implementation of the final I/M cutpoints. ACLPI further comments that the state has more than ample time to study this measure, yet it omitted it from the plan which plainly violates EPA guidance which requires that the State plan include it or provide a reasoned justification for their rejection. ACLPI asserts that EPA should insist that Arizona include this measure in the plan and that EPA could conditionally approve the plan pursuant to CAA section 110(k)(4) to allow the State sufficient time to meet the two conditions.

**Response:** ACLPI is incorrectly characterizing both the CAA’s BACM requirement and our guidance regarding it. Neither requires the implementation of *all* BACM. CAA section 189(b)(1)(B) requires that SIPs include “provisions to assure that the best available control measures for the control of PM-10 shall be implemented....” There is nothing in this express language of this section that requires the implementation of all BACM; the requirement is not phrased as “all best available control measures” or as “every best available control measure possible.” In the *Addendum* at 42014, we have interpreted this requirement to mean that a state must only provide for the implementation of BACM on its significant source categories: “in summary [of the process for selecting BACM for area sources], the state must document its selection of BACM by showing what control measures applicable to each source category (not shown to be de minimis) were considered. The control measures selected should preferably be measures that will prevent PM-10 emissions rather than temporarily reduce them.” This guidance clearly does require that a state consider all BACM. See also the *Addendum* at 42011 (De Minimis Source Categories).

In regards to this specific measure, it would set a motor vehicle's registration fee based on the vehicle's emissions measured during its I/M test. I/M programs do not and cannot test for directly-emitted PM-10. They test for CO, VOC, NOx, and sometimes smoke.<sup>31</sup> While I/M programs do reduce tailpipe PM-10, they do so only by assuring the vehicles are appropriately maintained to meet the standards (cutpoints) for these other pollutants.

As we have noted before, reductions in primarily-emitted PM-10 are necessary for attainment of standards in the Phoenix area. Because I/M programs cannot measure for directly-emitted PM-10, they cannot be used to implement a vehicle emissions charge program for PM-10 making such a program currently technologically infeasible for the purposes of this plan. Because conditionally approving the plan is not likely to result in the adoption of this measure but is more likely to simply allow the State more time to submit a reasoned justification for rejecting it, we are not inclined to conditionally approval the plan.<sup>32</sup>

**Comment:** ACLPI notes that the Arizona legislature repealed the remote sensing program during the 2000 regular session and thus the plan fails to demonstrate adequate legal authority for that measure. ACLPI also notes that the September 10, 2001 ruling by the Arizona Federal District Court found the State's repeal and discontinuation of the RSD program a violation of the CAA and asked that the ruling be included in the record for this rulemaking. Finally, ACLPI asserts that as a measure that has been implemented in the State for 3 years, it is a MSM and thus required under CAA section 188(e).

**Response:** The remote sensing [device] (RSD) program is not a measure developed specifically for the Phoenix serious area PM-10 plan, but rather one Arizona adopted in 1994 as part of its carbon monoxide and ozone plans. In the its PM-10 plan, Arizona used the RSD program in the same manner as it used a number of other existing measures: to support its demonstration that the State has provided for the implementation of BACM for the on-road motor vehicle category.

In the 24-hour standard proposal, we reviewed the plan's BACM and MSM demonstrations for this source category assuming that the RSD program was no longer in place

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<sup>31</sup> Smoke levels are not a direct measure of PM-10 nor is a good substitute in this situation. A vehicle can still emit PM-10 even if there is no smoke, that is, visible emissions, from its tailpipe.

<sup>32</sup> This measure was identified by 1997 Governor's Air Quality Strategies Task Force which was charged with identifying potential controls for reducing not only for PM-10 but also for CO and ozone precursors. The Task Force did not always distinguish CO and ozone measures from PM-10 measures. The serious area plan does note that this measure primarily impacts CO and ozone and has only a secondary effect on PM-10. See MAG plan, p. 5-6.

and determined that the plan still provided for the implementation of BACM and inclusion of MSM without it. See 66 FR 50252, 50259. Arizona has in place one of the nation's most comprehensive programs to address on-road motor vehicle emissions. With the additional measures in the serious area plan (including a more stringent diesel I/M program and measures both encouraging and requiring diesel fleet turnover), we believe the plan easily provides for the implementation of BACM and inclusion of MSM for on-road motor vehicle exhaust.

The plan included a very small NO<sub>x</sub> benefit of 4 kg per day, 0.003 percent of the daily NO<sub>x</sub> inventory. See *email*, Cathy Arthur (MAG) to Frances Wicher (EPA), "Impact of Removal of Remote Sensing Program on NO<sub>x</sub> in 2006," October 2, 2001. While not calculated in the serious area plan, a rough estimate of potential directly-emitted PM-10 reductions from the program is no more than one-half ton *per year* (or 2.6 lbs per day).<sup>33</sup> Neither the NO<sub>x</sub> benefit nor the directly-emitted PM-10 benefit would contribute to expeditious attainment of the PM-10 standards in the Phoenix area, so the State did not need to include the measure to assure expeditious attainment.

Arizona stopped implementing the RSD program because of its high cost per ton of reductions, in the order of thousands of dollars per ton of pollutant reduced; that is, its economic infeasibility. See ADEQ, Final Arizona State Implementation Plan Revision, Basic and Enhanced Vehicle Emissions Inspection/Maintenance Program, June 2001, p. 26. Under EPA's MSM policy, economic infeasibility is a valid reason for rejecting a measure as MSM. See 66 FR 50252, 50283.

Because we have determined that the Metropolitan Phoenix serious area plan provides for the implementation of BACM, inclusion of MSM, and expeditious attainment without the RSD program, any deficiency in legal authority for the program does not affect us approving the plan or granting of an attainment date extension under CAA section 188(e).

**Comment:** ACLPI disagrees that the plan provides a reasoned justification for the rejection of CARB diesel which ACLPI claims both EPA and MAG conceded is an MSM. ACLPI asserts that EPA did not accept the State's justification and developed its own justification for the failure to adopt the measure. Citing *Delaney*, ACLPI states that it is not EPA's role to supply

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<sup>33</sup> This estimate was made using information from the State's I/M SIP submittal and by assuming the same ratio of CO reductions to PM-10 reductions for remote sensing as for expansion of area A. ADEQ estimated that the expansion of Area A would result in a 2,727 ton per year reduction in CO and a 0.99 ton per year reduction in PM-10 and that remote sensing would result in a 1,336 ton per year reduction in CO. See 6 AAR 382, 393 (January 21, 2000). Using the 0.99/2727 ratio, estimated PM-10 reductions from remote sensing would be 0.48 tons per year or 2.6 lbs per day.

justifications that the state has not itself claimed. ACLPI also asserts that BACM cannot be excused if it would not advance the attainment date by one year; a measure must be adopted if it would advance the attainment date by even one day.

**Response:** Neither EPA nor MAG concedes that CARB diesel is a most stringent measure that is feasible for the Phoenix area. The serious area plan rejects CARB diesel as infeasible for the Phoenix area based on costs. See MAG plan, p. 9-46. Noting the uncertainties regarding this cost estimate, we could not judge whether this justification was reasonable or not. See 65 FR 19964, 19973. The question then was whether we could still approve the MSM demonstration without CARB diesel and absent a reasoned justification for not including it.

Our sole criterion for determining if the plan provides for MSM is whether it has excluded any feasible MSM or a group of feasible MSM that, if adopted and implemented early, would result in attainment of the PM-10 standards earlier. On-road and nonroad engines (the source categories that would be affected by CARB diesel) are not implicated in 24-hour exceedances of the PM-10 standard. Microscale plan, tables 3-2 to 3-5. Except for the Salt River monitoring site with its fugitive dust generating industrial sources, 24-hour exceedances in the Phoenix area are due exclusively to windblown dust from disturbed ground. Microscale plan, p. 16. Introducing CARB diesel would not contribute to expeditious attainment of the 24-hour standard.

Annual standard exceedances are also dominated by fugitive dust sources with on-road and nonroad engines contributing little to annual PM-10 levels in the area. The small emission reduction associated with the introduction of CARB diesel would not advance the attainment date in the area, either by itself or in combination with other measures. It takes a reduction of more than 4 metric tons per day to advance the annual standard attainment by a year in the Phoenix area. EPA TSD section "Reasonable Further Progress and Quantitative Milestones." The Phoenix plan estimates reductions from introducing CARB diesel at less than 0.8 mtpd in 2006. MAG plan, p. 10-37. Advancing attainment by one year is the appropriate increment for judging whether a measure would expedite attainment of the annual standard. One year is the smallest increment of time that one can advance attainment of the annual standard because the annual standard is measured over a calendar year, from January 1 to December 31. See 40 CFR part 50.

Because the including CARB diesel would not result in more expeditious attainment of either PM-10 standard, we find that the Phoenix serious area plan has meet the MSM requirement without it and without a reasoned justification for rejecting it.<sup>34</sup>

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<sup>34</sup> ACLPI does not raise the issue of BACM; however, as we have noted before Arizona has in place one of the nation's most comprehensive programs to address on-road motor vehicle

ACLPI's reliance on *Delaney* is misplaced. In that case, the Court found that EPA's 1979 guidance explicitly provided that certain measures were presumptively reasonably available and that it was the state's burden to overcome that presumption. In 1992, we repealed the provisions of the 1979 guidance at issue in *Delaney* and added provisions specifically for PM-10 that establishes no presumption for those measures. See *General Preamble* at 13560. Here, there was no EPA policy presumption that CARB diesel was a feasible measure for the Phoenix area which Arizona had to overcome.

**Comment:** ACLPI states that EPA's use of the recently adopted federal diesel fuel sulfur limit to justify the rejection of CARB diesel is "disingenuous" because the new federal standard does not limit the aromatic hydrocarbon content of diesel fuel like CARB diesel does and thus is not an adequate substitute for the CARB diesel standard. ACLPI also notes that the federal sulfur limit will not apply to Phoenix until September 2006 and that under the CAA, BACM for the Phoenix nonattainment area were to be implemented by June 10, 2000 and that a lesser standard that is not fully implemented until more than six years later cannot satisfy the BACM and MSM requirements of the CAA.

**Response:** We did not use our recently adopted federal ultra-low sulfur diesel standard as a justification for rejecting CARB diesel. As discussed above, we provided no justification for rejecting CARB diesel, rather we have determined that the Phoenix serious area plan meets the CAA section 188(e) requirement for MSM without CARB diesel and absent a reasoned justification for rejecting it.

Neither we nor Arizona in its PM-10 plan has identified or treated the new federal diesel standard as a BACM and/or MSM for the purposes of the Phoenix serious area plan; therefore, its compliance with these implementation deadlines for these requirements is immaterial.

**Comment:** ACLPI notes that the January 2001 Governor's Brown Cloud Task force report recommended the mandatory sale of CARB diesel in the Phoenix area and that the mandatory sale of CARB diesel would result in the reduction of 0.599 tons of PM-10 per day.

**Response:** The Governor's Brown Cloud Task Force was evaluating potential controls to reduce and/or eliminate the Phoenix area's brown cloud which is a visibility issue, a welfare concern rather than a public health concern. The Phoenix serious area PM-10 plan projected the total reduction (on-road and nonroad) from the implementation of CARB diesel to be 0.8 mtpd in

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emissions. With the additional measures in the serious area plan (including a more stringent diesel I/M program and measures both encouraging and requiring diesel fleet turnover), we believe the plan easily provides for the implementation of BACM and inclusion of MSM for on-road motor vehicle exhaust even in the absence of CARB diesel.

2006, the Task Force estimates the reduction to be 0.6 eng tons per day (0.54 mtpd) in 2020. MAG plan, p. 10-37 and "The Governor's Brown Cloud Summit, Final Report," January 16, 2001, p. 11. Neither estimate takes into account the new federal low-sulfur content limits.

We used the higher 0.8 mtpd emission reduction in finding that the serious area plan included MSM absent CARB diesel. 65 FR 19992, 19973.

**Comment:** DWA also contends that the serious area plan does not provide for MSM because it does not include CARB diesel. DWA further argues that the failure of the plan to include a requirement for cleaner burning diesel fuel disproportionately impacts poor and minority communities in heavily urbanized areas.

**Response:** We believe the plan provides a comprehensive program to attain the PM-10 standards throughout the Phoenix nonattainment area including in poor and minority communities, targeting those sources responsible for violations of the annual standard in all areas and the 24-hour standard outside of the Salt River modeling domain. The plan does not defer needed controls or target controls in a manner that disproportionately impacts poor and minority communities.

**Comment:** A number of other commenters urged that EPA disapprove the plan because it did not contain CARB diesel. One private citizen suggested that oxygenated gasoline be required year around.

**Response:** For the reason discussed above, we do not believe that there are sufficient grounds to disapprove the plan because it does not include CARB diesel. Oxygenated gasoline is currently required during the winter months. See A.A.C. R20-2-751(B). During the summer, clean burning gasoline that either meets CARB performance reformulated gasoline standards or the federal phase II RFG standards is required. See A.A.C. R20-2-751(A).

**Comment:** ACLPI notes that EPA acknowledges that the state repealed a number of incentives for the purchase of alternatively-fueled vehicles originally included in the Phoenix plan but asserts that EPA offers no analysis or explanation for why these previously included control measures are no longer required.

**Response:** The repealed incentives discussed in the TSD were passed by the Arizona Legislature in 2000 and removed later that year because of their excess cost, estimated at as much as \$400 million. See Fact Sheet for S.B. 1001, 44th Legislative Session, 6th Special Session, October 20, 2000. The repealed incentives were never in the Phoenix plan. We noted them in the TSD only because they had been widely discussed in the press during 2000 and we wished to make clear their relationship to the Phoenix PM-10 plan.

**Comment:** One private citizen suggested that any older vehicle that tests at more than double the test standards should be removed.

**Response:** The current Arizona vehicle emissions inspection program requires that any vehicle which tests at twice the emissions limit must be repaired and cannot be obtain a waiver. If the vehicle cannot be repaired, then it cannot be registered. See AAC R18-2-1008.

**Comment:** One private citizen suggested that alternative energy sources that are zero or minimal polluters need to be implemented via a feasible plan and incentives such as solar, alternative engines and fuels and that the incentives need to be adequate to motivate people to convert.

**Response:** Arizona already has a program of incentives to encourage the conversion to or purchase of alternatively fueled vehicles including incentives to encourage the fueling infrastructure needed to support them. The State also mandates that federal, state, county, and city/town vehicle fleets (including buses) be converted to alternative fuels. See MAG plan, pp. 7-19 to 7-22 and A.R.S. 9-500.04, 15-349, 41-1516, 49-474.01, and 49-573.

## 2. TCMs for On-Road Motor Vehicles Exhaust and Paved Road Dust

**Comment:** ACLPI argues that the metropolitan Phoenix plan improperly rejects various TCMs related to congestion management and idling reduction on the grounds that individually each measure would have a relatively small impact on PM-10 emissions because the CAA does not contain a “small impact” exception from BACM and the plan’s purported justification for rejecting the TCMs does not comport with EPA’s BACM guidance. ACLPI also argues that the omission of these measures based solely on the amount of their individual impact violates the requirement of attainment as expeditiously as practicable because collectively, the measures might have a significant impact and the plan’s failure to include these measures is inconsistent with its adoption of various other measures that are expected to result in similarly minor reductions in PM-10 emissions.

**Response:** EPA TSD Table TCM-3 lists four congestion management or idling measures that were identified as potential BACM but were not adopted as part of the plan: off-peak movement of goods, truck restrictions during peak times, limit excessive car dealership vehicle starts, and limit idling time to 3 minutes. Contrary to ACLPI’s assertions, the plan did not reject these measures on “small impact” grounds. Rather, it provides no clear justification for rejecting any of these measures.

The first two measures only shift the time truck travel occurs but do not change the amount of travel. Their effect is to reduce traffic congestion by removing trucks from the road during peak travel times. Congestion relief has minimal impact on tailpipe PM-10. The plan

rejects as technologically infeasible TCMs that reduce congestion by relocating trips spatially or temporally because these measures simply move emission from one place to another and from one time of the day to another and provide no benefit for attaining either the annual or 24-hour PM-10 standards because of the regional nature of the standards and their long averaging time. MAG plan, p. 9-16. The third measure would have minimal impact on tailpipe PM-10 because idling emissions at car dealerships are very small. The plan does include one idling measure for buses. MAG plan, p. 7-66.

Prior to the development of the serious area plan, the Phoenix area already had in place a comprehensive set of TCMs. See EPA TSD, Table TCM-2. With the additional measures in the serious area plan (including additional traffic light synchronization, transit improvements, and bicycle and pedestrian facility improvements), we believe the plan easily provides for the implementation of BACM for on-road motor vehicles even without the four measures listed above. In addition, these measures have little PM-10 benefit; therefore, their adoption and implementation would not contribute to reasonable further progress toward or expeditious attainment of the PM-10 standards in the Phoenix area.

We do not believe that the CAA requires us to reject an otherwise sound SIP because of minor issues that do not affect the principal purposes of the plan: the implementation of BACM and progress towards attainment and expeditious attainment. Because these measures have little in the way of benefit and the State has provided for the implementation of BACM without them, we believe that the lack of a reasoned justifications for rejecting some of these measures is not grounds for disapproving the plan.

The Phoenix area is also a serious nonattainment are for carbon monoxide and ozone. On-road mobile sources are the primary sources of CO and ozone. Over the last 20 years, Arizona has implemented a number of transportation control measures to reduce emissions of these pollutants. These measures also provide a very small reduction in PM-10 emissions. Since these measures have already been adopted and implemented, there is no reason to ignore their PM-10 benefit even if it is small.

Under the CAA, states have the ability to design the control strategies they will use to attain the ambient air quality standards. A state may choose to include in its control strategy some measures with minor emission reductions and not to include others with similar minor reductions.

**Comment:** ACLPI argues that the plan fails to provide any reasoned justification for the rejection of certain TCMs such as 1) mandatory employee parking fees, 2) evaluation of air quality impacts of new development and mitigation of adverse impacts, and 3) merchant transportation incentives and this failure violates the CAA and EPA guidance, which require

serious area PM-10 SIP revisions to provide for the implementation of all BACM or provide a reasoned justification for their rejection. In subsequent comments, ACLPI also comments in regards to the evaluation of air quality impacts of new development and mitigation of adverse impacts that land use is inextricably linked to transportation and VMT and any serious effort to reduce VMT must address land use patterns and in particular how and where new development occurs and all of the other measures adopted in the plan will not achieve attainment if the Phoenix area continues its pattern of “uncontrolled, automobile dependent, sprawling growth and the exponential increase in VMT.

**Response:** As we have discussed previously (see page 417), neither the CAA nor EPA guidance requires the implementation of *all* BACM, only that a state provide for the implementation of best available control measures on its significant source categories. See CAA section 189(b)(1)(B) and the *Addendum* at 42014.

A mandatory parking fee program is a “parking surcharge regulation” under the CAA. A program to evaluate the air quality impacts of new developments and require mitigation of adverse impacts is an “indirect source review (ISR) program” under the CAA. We are specifically barred from requiring states to include parking surcharges and ISR programs in their SIPs as a condition for approval. CAA sections 110(c)(1)(B) and 110(a)(5)(a)(i). The general requirement for BACM in CAA section 189(b)(1)(B) does not override this specific prohibition. So even if we did consider the failure of the State to implement these measures or to provide a reasoned justification for not implementing them as cause to disapprove the BACM demonstration, we could not do so because such a disapproval would be tantamount to requiring a parking surcharge regulation and an ISR program as a condition for approval of the serious area plan.

The last measure, and the only one among the three listed by ACLPI for which we could require implementation or a reasoned justification for rejecting it is merchant transportation incentives (e.g., bus passes), which are likely to have minimal impact because of transit levels in the Phoenix area. Because this measure has little PM-10 benefit, its adoption and implementation would not contribute to reasonable further progress toward or expeditious attainment of the PM-10 standards in the Phoenix area.

Prior to the development of the serious area plan, the Phoenix area already had in place a comprehensive set of TCMs. See EPA TSD, Table TCM-2. With the additional measures in serious area plan (including additional traffic light synchronization, transit improvements, and bicycle and pedestrian facility improvements), we believe the plan easily provides for the implementation of BACM for on-road motor vehicles even without merchant transportation incentives. In addition, the measure has little PM-10 benefit; therefore, its adoption and implementation would not contribute to reasonable further progress toward or expeditious

attainment of the PM-10 standards in the Phoenix area.

As we have discussed previously (see page 417), neither the CAA nor EPA guidance requires the implementation of *all* BACM, only that a state provide for the implementation of best available control measures on its significant source categories. See CAA section 189(b)(1)(B) and the *Addendum* at 42014. Moreover, we do not believe that the CAA requires us to reject an otherwise sound plan because of minor issues that do not affect the principal purposes of the plan: implementation of BACM and progress towards and expeditious attainment. Because these measures would not contribute to expeditious attainment and the State has provided for the implementation of BACM without them, we do not believe that the lack of reasoned justifications for rejecting the measures is grounds for disapproving the plan.

We note that the attainment demonstration in the metropolitan Phoenix serious area plan is based on land use projections and their associated vehicle miles traveled forecasts for the year 2006; therefore, the plan already takes into account current and future “sprawl” and still demonstrates expeditious attainment.

### 3. Nonroad Engines

**Comment:** ACLPI asserts that the serious area plan fails to provide an adequate justification for its rejection of banning the sale or use of gasoline-powered lawn and garden equipment, a measure identified as a potential BACM and that the reason provided by Arizona that other measures are in place to control emissions from this source does not meet the requirement imposed by the CAA and EPA policy which require serious area PM-10 SIP revisions to provide for the implementation of all BACM or provide a reasoned justification for their rejection based on economic or technological considerations.

**Response:** As we have discussed previously (see page 417), neither the CAA or EPA guidance requires the implementation of *all* BACM. Both only require that a state provide for the implementation of best available control measures on its significant source categories. See CAA section 189(b)(1)(B) and the *Addendum* at 42014.

We view the justification provided by Arizona to be essentially a claim that the existing measures already provide for the implementation of BACM on this source category. We agree that the State has provide for the implementation of BACM on the nonroad engine source category. See 66 FR 50260. Once a State has met its statutory obligation to provide for the implementation of BACM on a source category, it is not required to do more. See CAA section 189(b)(1)(B).

Between the applicable federal and state measures, we believe that there is in place a

comprehensive program to address nonroad engine emissions in the Phoenix area. Based on our review of these measures, we believe the plan easily provides for the implementation of BACM for nonroad engines, even absent a measure banning the sale of gasoline-powered lawn and garden equipment. See Table NRM-3 in the EPA TSD.

Because ACLPI fails to explain why it finds the State's justification unreasonable, we are unable to respond in any further detail to its concerns.

**Comment:** ACLPI raises the same issues regarding CARB diesel and nonroad engines as it does for CARB diesel and on-road engines.

**Response:** Between the applicable federal and state measures, we believe that there is in place a comprehensive program to address nonroad engine emissions in the Phoenix area. Based on our review of these measures, we believe the plan easily provides for the implementation of BACM for nonroad engines and expeditious attainment, even absent CARB diesel. See Table NRM-3 in the EPA TSD.

We have fully responded to ACLPI's comments on CARB diesel in the section on on-road engines above.

#### 4. Paved Road Dust

**Comment:** ACLPI asserts that some jurisdictions in the nonattainment area have not made commitments to adopt measures to control dust on paved roads and that the plan provides no explanation as to why the implementation of paved road dust measures by all jurisdictions is infeasible. ACLPI states that EPA guidance indicates that BACM should be adopted and implemented throughout a serious PM-10 nonattainment area unless 100 percent implementation is infeasible.

**Response:** ACLPI is incorrectly interpreting EPA's guidance. ACLPI cites the *Addendum* at 42014 which states:

When evaluating economic feasibility, States should not restrict their analysis to simple acceptance/rejection decisions based on whether full application of a measure to all sources in a particular category is feasible. Rather, a State should consider implementing a control measure on a more limited basis, e.g., for a percentage of the sources in a category if it is determined that 100 percent implementation of the measure is infeasible. This would mean, for example, that an area should consider the feasibility of paving 75 percent of the unpaved roadways even though paving all of the roads may be infeasible.

This guidance does not demand states implement a measure 100 percent unless 100 percent implementation is infeasible. Rather, it suggests that states not consider “full implementation on all sources in the nonattainment area” as the only possible implementation scenario for evaluating a measure's economic feasibility and that, before it rejects a measure as economically infeasible, it should first consider less extensive implementation.

We are not clear to which paved road dust measures ACLPI refers. There are a number of measures in the Phoenix plan to reduce paved road dust including trackout controls, paving and/or prohibiting unpaved access points, clean up of spills, cleaning up of erosion-caused deposits, stabilizing shoulders and medians, and road sweeping. See Table PRD-2 in the EPA TSD section “Implementation of BACM and Inclusion of MSM for Paved Road Dust.” Two of these controls, track out and clean up of erosion-caused deposits, are regulated under MCESD’s rules which apply county-wide and do not need commitments from individual jurisdictions to ensure their implementation. See Applicability section of Rule 310 and Rule 310.01. Most if not all the jurisdictions in the nonattainment area have committed to implement one or more of the other paved road dust control measures.<sup>35</sup> We also note that many of the paved road measures are actually capital improvements to road ways (e.g., installing curbs, gutters, and sidewalks) that are routinely undertaken by local jurisdictions as part of their normal operations and therefore will occur whether or not there is a specific commitment to do so in the Phoenix plan. See the highway projects section of *MAG FY 2002-2006 MAG Transportation Improvement Program*, July 25, 2001. A copy of the TIP can be found at [www.mag.maricopa.gov](http://www.mag.maricopa.gov).

**Comment:** ACLPI asserts that the Phoenix plan does not included the MSM of limiting procurement of street-sweeping equipment to PM-10 efficient units and that EPA’s conclusion that the Maricopa County commitment to fund the purchase of PM-10 efficient units may be more stringent than the South Coast is arbitrary and capricious because it is not based on a quantification of the emission reductions that can be achieved by each measures and a comparison of these amounts to determine which measure provides the maximum degree of emission reduction.

**Response:** As we have discussed previously (see page 397), we do not believe that quantification is always necessary or possible or can be done accurately enough to be meaningful and therefore cannot and should not be required as the sole means of determining relative stringency. We find that for the street sweeper measure a qualitative analysis is sufficient to

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<sup>35</sup> We also note that several jurisdiction did provide reasoned justification for rejecting these unpaved road measures and other measures that ACLPI later claims have no justifications for their rejection. The justifications are summarized in MAG plan, Commitments for Implementation, Volume 4. Because of their number, we have not noted all of these justifications in the EPA TSD.

demonstrate to our satisfaction that the plan's street sweeper measure is likely to be as or more stringent than South Coast's rule.

MAG has committed to use \$ 3.8 million in CMAQ funds to subsidize purchase of PM-10 efficient street sweepers. See MAG commitment, PM-10 Efficient Street Sweepers. MAG has recommended an additional \$1.9 million in CMAQ funds be allocated to purchase PM-10 certified street sweepers in the FY 2001-2005 TIP. See MAG commitment, PM-10 Efficient Street Sweepers. Given the availability of these funds, Maricopa County jurisdictions have a strong economic incentive to advance replacement of their existing street sweepers with PM-10 efficient ones. Moreover, because the CMAQ funds can only be used to purchase PM-10 efficient street sweepers, it is reasonable to assume that Maricopa County jurisdictions will purchase and use only PM-10-efficient models. On the other hand, under the South Coast approach, Maricopa County jurisdictions would be mandated to purchase PM-10 efficient street sweepers when they replace their existing ones but would not be provided financial incentive to do so.

In comparing the two approaches, we believe both would result in the purchase and use of only PM-10 efficient street sweepers but because the Phoenix plan's approach will result in a faster turn over to the new equipment and its early and more widespread use, it is overall more stringent than the South Coast approach.

**Comment:** ACLPI believes that the plan should have evaluated increasing existing street sweeping frequencies as a control measure and that this measure has been adopted by a couple of jurisdictions in the nonattainment area and, according to ACLPI, constitutes BACM.

**Response:** Increased street sweeping is a measure that cannot be evaluated independently of the measure to acquire PM-10 efficient street sweepers because increasing sweeping frequency absent PM-10 efficient street sweepers may actually exacerbate PM-10 emissions, depending on the current equipment employed by the local jurisdiction. In its CMAQ funding calculations, MAG has incorporated street sweeping frequency as a criterion for allocating funds to local jurisdictions for PM-10 efficient street sweepers. See MAG, "Methodology for Evaluating Congestion Mitigation and Air Quality Improvement Projects," Draft Revised, June 21, 2001, pp. 18 - 22. This method will distribute the sweepers in a way that maximizes the regional air quality benefits of the program.

"Frequent routine street sweeping" was included in plan's list of suggested measures. See MAG plan, p. 5-17. Local transportation departments are in the best position to evaluate and determine whether increasing the frequency of their street sweeping efforts in certain locations will reduce emissions. Under MAG's process for PM-10 efficient street sweeper distribution, it is in the interest of local transportation departments to develop a plan to maximize emission reductions to be gained by targeting use patterns of the PM-10 efficient sweepers to road segments

where they will make the most difference.

**Comment:** ACLPI asserts that the Phoenix plan does not include the MSM contained in South Coast's Rule 403 for dirt trackout that requires trackout control measures for work sites less than 5 acres that haul less than 100 cubic feet of material and that EPA's conclusion that the Maricopa County rule is equally stringent is arbitrary and capricious because it is not based on a quantification of the emission reductions that can be achieved by each measure and a comparison of these amounts to determine which measure provides the maximum degree of emission reduction.

**Response:** As we have discussed previously (see page 397), we do not believe that quantification is always necessary or possible or can be done accurately enough to be meaningful and therefore cannot and should not be required as the sole means of determining relative stringency. In the case of these particular measures, we believe a qualitative analysis is sufficient to determine relative stringency to our satisfaction.

As we discuss in the TSD, we agree with the plan's finding that the trackout requirements in MCESD Rule 310 are very similar to those in South Coast Rule 403. Like the South Coast rule, the MCESD rule requires immediate removal of trackout extending more than 50 feet and removal of all visible trackout at the end of each workday, regardless of size or amount of material hauled. Thus, the "bottom line" control is the same in the two rules. However, in developing its rule, MCESD determined that some flexibility is appropriate for small worksites regarding trackout control methods provided that they can comply with the rule's requirements without installing a trackout control device.<sup>36</sup> If a site in Maricopa County that is less than 5 acres or that hauls less than 100 cubic yards of material each day cannot control its trackout sufficiently to meet the requirements absent use of a trackout control device, then the site will be in violation of Rule 310 and will need to take additional actions to comply. We also note that Rule 310 requires installation of trackout control devices for *any* site where bulk material is hauled on-site across a public road that is open to public travel while construction is underway. Rule 310, section 308.2.

**Comment:** ACLPI states that there are a number of BACM for addressing dust from unpaved road shoulders that have only been adopted by a few jurisdictions and that some jurisdictions have not made any commitments to address dust from unpaved road shoulders. ACLPI asserts EPA guidance indicates that BACM should be adopted and implemented throughout a serious PM-10 nonattainment area unless 100 percent implementation is infeasible. ACLPI also notes that CAA

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<sup>36</sup> This determination by MCESD is essentially a finding that the South Coast's less flexible requirement is not feasible for the Phoenix area. Under CAA section 188(e) states do not need to include potential MSM that are infeasible for their areas.

section 110(a)(2)(E) requires that plans provide assurances of adequate personnel, funding and authority to implement control measures.

**Response:** As we have discussed previously (see page 427), our guidance (*Addendum* at 42014) does not demand states implement a measure 100 percent unless 100 percent implementation is infeasible. Rather, it suggests that a state not consider "full implementation on all sources in the nonattainment area" as the only possible implementation scenario for evaluating a measure's economic feasibility and that before it rejects a measure as economically infeasible, it should first consider less extensive implementation.

ACLPI is incorrectly applying CAA section 110(a)(2)(E). Under this section, a state needs to provide assurances of adequate personnel, funding and authority only for those control measures that it has included in its submitted implementation plan. It does not need to provide such assurances for control measures that are not included in its submitted implementation plan, whether or not an argument could be made that such measures are necessary to meet another CAA provision. This is clear from the language of the section: "[e]ach implementation plan *submitted by a State*...shall...provide (i) necessary assurances that the State...will have adequate personnel, funding, and authority under State...law to carry out *such* implementation plan." (emphasis added). Therefore, where a jurisdiction has not committed to implement a measure, it is not required by CAA section 110(a)(2)(E) to provide assurances of adequate resources.

**Comment:** ACLPI asserts that South Coast Rule 1186's requirement to clean up all accumulation of material on roadways is more stringent than MCESD Rule 310.01's requirement to clean up only erosion-caused deposits and that EPA's conclusion that the Maricopa County rule is equally stringent is arbitrary and capricious because it is not based on a quantification of the emission reductions that can be achieved by each measure and a comparison of these amounts to determine which measure provides the maximum degree of emission reduction.

**Response:** As we have discussed previously (see page 397), we do not believe that quantification is always necessary or possible or can be done accurately enough to be meaningful and therefore cannot and should not be required as the sole means of determining relative stringency. In this particular case, we do not believe there is sufficient detailed information to quantify the relative stringencies between these measures and a qualitative analysis is the only means of available assessing relative stringency.<sup>37</sup>

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<sup>37</sup> In order to quantify the emission reductions from each measure, we would need information on how many deposits, their cause, their size and opacity, the type of roads on which they occur and the ADT on those roads. This level of detailed information is just not available. We could make several sets of reasonable but equally unverifiable assumptions, but each set could result in a different outcome.

South Coast Rule 1186 requires owners/operators of paved public roads with 500 or more ADT to begin street cleaning visible roadway accumulations (caused by erosion or haul truck spillage) that cover a contiguous area in excess of 200 square feet within 72 hours of notification. The accumulation is to be completely removed as soon as feasible, and if it is not removed within 10 days of notification, the owner/operator must notify the District and provide an estimated removal completion date.

MCESD's Rule 310.01's provision for removal of erosion-caused deposits applies to any paved road (public or private), applies to any erosion-caused deposit that violates the rule's opacity standard, regardless of its size or the road's ADT, and requires clean up within 24 hours of the deposit's identification or prior to the resumption of traffic on pavement. For spillage, MCESD's Rule 310, section 308.1 requirements, are designed to prevent spillage of bulk materials from haul trucks. In areas where significant dirt deposits are observed, Maricopa's enforcement staff will likely be able to trace the activity back to a nearby site(s) and enforce Rule 310 requirements. Given that MCESD's rule generally have more strict requirements than South Coast, we believe that in total they are more stringent.

#### 5. Disturbed Vacant Land

**Comment:** ACLPI asserts that Rule 310.01 weakens the FIP rule requirements by 1) exempting vacant lots that have less than 500 cumulative square feet of disturbed surface area and 2) extending the surface stabilization period from 60 days to 8 months where the chosen control measure is vegetation or restoration to undisturbed native conditions, effectively allowing an additional 6 months of unabated pollution. ACLPI further asserts that EPA's conclusion that these changes will not have a significant impact on emission reductions and any difference in coverage between the rules will be offset by the fact that the SIP rule applies to more vacant lots is unsupported by quantification or analysis of the relative emission reductions and thus EPA's approval of the rule change as sufficient to provide the same level of control as the FIP rule is therefore arbitrary and capricious and violates the Act and EPA guidance that require BACM to go beyond existing RACM-level controls.

**Response:** We are not withdrawing or modifying the FIP fugitive dust rule in this action. Therefore, comments regarding the effect of approving Rule 310.01 on that rule are not germane.

Neither the CAA nor EPA guidance mandates that a BACM-level control measure always go beyond the existing RACM-level control measure. While both the CAA and EPA guidance intend a greater level of stringency to apply in areas that are required to implement BACM than in those areas required only to implement RACM, the intent is that the *overall* PM-10 control strategy for a category be more stringent rather than that every individual control measure in that strategy be more stringent.

A state can show that it has implemented BACM in more than one way. It can show it by demonstrating that its BACM-level control measures for a source category collectively go beyond existing RACM-level measures for that category. *Addendum* at 42013. It can also show it by demonstrating that its adopted measures meet the definition of BACM. *Addendum* at 42010. Thus, if a state has already adopted measures to meet the RACM requirement that are collectively the “maximum degree of emissions reduction achievable from a source or source category which is determined on a case-by-case basis, considering energy, economic and environmental impacts” then it need not strengthen the measures further to meet the BACM requirement.

We also emphasize that a BACM demonstration is done source category by source category and not measure by measure. In determining whether a state has provided for the implementation of BACM on a particular category, we need to look at all the control measures for that category. In this particular instance, Rule 310.01 alone does not constitute the entire BACM-level control strategy for vacant lots. Rather, it is the combination of Rule 310.01, Rule 310, and city and town commitments that constitute the BACM strategy for this category. See 65 FR 19964, 19973 and 66 FR 50252, 50264.

ACLPI's comments do not accurately characterize Rule 310.01's provision for establishing vegetative ground cover. The rule does *not* allow an additional six months for owners/operators to comply absent the implementation of any other measures. Owners/operators must establish vegetative ground cover within 60 days, however, six months are allowed for vegetation to grow to an extent that meets the rule's requirements for a stabilized (vegetated) surface. If MCESD determines, per section 302.1.a, that vegetative ground cover was not planted (e.g., seeded) within 60 days, or if, an owner/operator is not subsequently taking the necessary steps to maintain vegetative growth on the lot, they can be found in violation of the rule. Since, in many cases, watering will re-crust (which is an effective method of stabilizing the surface) a disturbed surface and watering or rainfall would be necessary to maintain vegetative growth, we believe that lots where owners/operators comply with section 302 requirements through vegetative ground cover will likely be re-crust and thus stabilized well before the eight-month period has passed.

For perspective, we note that the 500 square foot exemption is about 10 times less than the already low 0.10 acre (4,356 square feet) vacant lot size threshold at which the Rule 310.01 applies. MCESD included a small value of disturbed area below which the rule would not apply in order to respond to stakeholder concerns that enforcement actions could be taken where only minor surface disturbances exist.

**Comment:** ACLPI asserts that because some jurisdictions have committed to more stringent control measures for nonpermitted vacant lots, their measures must be considered BACM/MSM and the plan must either provide for these measures' implementation by all jurisdictions or demonstrate why this is infeasible.

**Response:** The CAA's requirements to implement BACM and include MSM apply to the nonattainment area as a whole and not to each individual jurisdiction within that nonattainment area.<sup>38</sup> Consequently, we have reviewed whether the combined effect of all controls adopted in the metropolitan Phoenix area for a particular source category results in the implementation of BACM and the inclusion of MSM for that source category. Because BACM and MSM are nonattainment area-wide requirements, the actions of one jurisdiction within the nonattainment area cannot set a standard for BACM and/or MSM that must either be implemented by all other jurisdictions within the area or demonstrated to be infeasible.<sup>39</sup>

This comment is a variation on another of ACLPI's comments that "EPA's guidance requires that BACM should be adopted and implemented throughout a serious PM-10 nonattainment area unless 100 percent implementation is infeasible." As discussed previously (see page 427), this is not a correct reading of EPA's guidance.

**Comment:** ACLPI asserts that EPA's conclusion that the provisions in Maricopa County Rules 310 and 310.01 relating to visible dust emissions and weed abatement operations are equal or more stringent than those in Clark County Rule 41 and South Coast Rule 403 is arbitrary and capricious because it is not based on a quantification of the emission reductions that can be achieved by each measure and a comparison of these amounts to determine which measure provides the maximum degree of emission reduction.

**Response:** As we have discussed previously (see page 397), we do not believe that quantification is always necessary or possible or can be done accurately enough to be meaningful and therefore cannot and should not be required as the sole means of determining relative stringency.

After comparing Clark County Rule 41's provisions for off-road racing with Rules 310 and 310.01's provisions, we determined that they have the same control requirements and applicability

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<sup>38</sup> This is clear from the language of the applicable CAA sections. CAA section 189(b)(1)(b) requires that "a state in which all or part of a serious area is located shall submit an implementation plan for such area that includes...provisions to assure that [BACM]...shall be implemented...." CAA section 188(e) requires that "the State [requesting an extension of the attainment date] demonstrates...that the plan for that [serious] area includes the most stringent measures...." The requirements in both sections apply to the serious area and not to the individual jurisdictions within the serious area.

<sup>39</sup> Only if Arizona had chosen to divide its nonattainment area plan up by jurisdictions (e.g., one plan for Phoenix, another for Scottsdale, etc.) and represented each individual plan as the complete serious area plan for that jurisdiction would we need to evaluate BACM and MSM jurisdiction by jurisdiction.

and thus Clark County's rule is not more stringent than the existing MCESD rules.<sup>40</sup> See the MSM analysis in the EPA TSD section "Implementation of BACM and Inclusion of MSM for Disturbed Vacant Land." In a situation where identical rules are being compared, requiring quantification simply adds more work without adding any value.

It is not technically possible to quantitatively compare South Coast's Rule 403 prohibition of visible dust emissions at the property line to the surface stability standards in MCESD's Rule 310 and Rule 310.01, so we can only compare them qualitatively. However, based on our work to develop test methods for fugitive dust sources in the Phoenix area, we believe a property line limit would be insufficient to ensure control of disturbed vacant lots there.

Under the Rule 403 approach, the location of the disturbance relative to the property line can influence whether a source is found in violation. In other words, the location of the emissions on the site and not solely the amount of emissions from the site affect compliance. Wind gusts and atmospheric mixing can disperse a dust plume before it reaches the property line without eliminating the transport of emissions across the property line.<sup>41</sup> Moreover, with multiple sources of windblown dust in an area, it can be difficult for enforcement officers to conclusively determine the origin of visible emissions at property lines. Finally, enforcement of a property line limit is remedial; that is, it is enforced only when there is a dust plume and thus dust emissions occurring on the site.

In MCESD's Rule 310 and Rule 310.01, the performance standards are aimed at stabilizing the disturbed surface to reduce or prevent any windblown emissions in the first place and thus are preventative rather than remedial in nature. Moreover, the rules' requirements can be effectively enforced whether or not a dust plume is observed.

South Coast's Rule 403 exempts weed abatement operations from the property line limit requirement if the operation has been ordered by the agricultural commissioner or fire department provided that 1) mowing, cutting, or other similar process is used which maintains weed stubble at

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<sup>40</sup> Please also note that, in a proposed disapproval of the Las Vegas Valley's PM-10 Moderate and Serious Area Nonattainment Plans, we commented that the off-road requirements in Rule 41 relied upon Executive Officer discretion, which is not enforceable by EPA. See "Technical Support Document for EPA's Notice of Proposed Disapproval of the Las Vegas Valley PM-10 Moderate and Serious Area Nonattainment Plans", May 31, 2000, pg. 14. Following this proposal, Clark County submitted a new Serious Nonattainment Area PM-10 Plan that does not rely on Rule 41. See "PM-10 State Implementation Plan for Clark County," June 2001.

<sup>41</sup> Zero visible emissions does not mean that there are no emissions.

least three inches above the soil, or discing or similar operation is used if a determination is made by the agency issuing the weed abatement order that mowing or cutting of weeds is not practical. MCESD Rule 310, section 303 requires any earthmoving operation that disturbs 0.1 acre or more to have a dust control plan, including any weed abatement done by discing or blading and thus does not in any circumstances exempt weed abatement operations using discing or blading from dust control requirements like the South Coast rule allows. Rule 310, section 308.8 also requires work practice standards for weed abatement unlike Rule 403. In both regards, MCESD's rule is more stringent than South Coast's.

## 6. Unpaved Roads

**Comment:** MAG comments that the Clark County's PM-10 Offset Paving Program was not deemed to be more stringent than the commitments made in the serious area plan because the emission reductions generated by the program are not certain in either time or quantity whereas the commitments for road paving in the Phoenix plan are certain. It also comments that the Clark County program is used only as an offset program for stationary source emission increases thus road paving emissions reductions are achieved only when a permit application is processed making the projection of future emission reductions unquantifiable and uncertain.

**Response:** We note MAG's comment.

**Comment:** ACLPI comments that only some jurisdictions have committed to implement the "traffic reduction/speed control plans for unpaved roads" BACM and again cites EPA guidance regarding 100 percent implementation and CAA section 110(a)(2)(E).

**Response:** As we have discussed previously (see page 427), our guidance (*Addendum* at 42014) does not demand states implement a measure 100 percent unless 100 percent implementation is infeasible. Rather, it suggests that a state not consider "full implementation on all sources in the nonattainment area" as the only possible implementation scenario for evaluating a measure's economic feasibility and that before it rejects a measure as economically infeasible, it should first consider less extensive implementation.

As we have also discussed previously (see page 430), CAA section 110(a)(2)(E) requires a state to provide assurances of adequate personnel, funding and authority only for those control measures that are in its submitted implementation plan. It does not require a state to provide such assurances for control measures that are not in its submitted implementation plan. Therefore, where a jurisdiction has not committed to implement a measure, it is not required by CAA section 110(a)(2)(E) to provide assurances of adequate resources.

We believe the measures to pave or otherwise stabilize unpaved roads in the Phoenix PM-

10 nonattainment area establish the critical provisions for the implementation of BACM. Regarding the posting of speed limits on public access unpaved roads, the success of this measure depends on driver compliance with speed limits which is highly uncertain without monitored enforcement. For this reason, we did not include speed limits as one of the control options for unpaved roads in our federal fugitive dust rule., instead allowing only control options that stabilized the unpaved road surfaces: paving, graveling, and applying stabilizers.

**Comment:** ACLPI contends that since Phoenix has paved all of its publicly owned roads, this measure should be considered BACM and the plan must either provide for the implementation of this measure by all jurisdictions or demonstrate why this is infeasible.

**Response:** As we have stated previously (see page 433), the CAA's requirements to implement BACM and include MSM apply to the nonattainment area as a whole and not to each individual jurisdiction within that nonattainment area. Because this is the case, the actions of one jurisdiction within the nonattainment area cannot set a standard for BACM and/or MSM that must either be implemented by all other jurisdictions within the area or demonstrated to be infeasible.

This comment is a variation on another of ACLPI's comments that "EPA's guidance requires that BACM should be adopted and implemented throughout a serious PM-10 nonattainment area unless 100 percent implementation is infeasible." As discussed previously (see page 427), this is not a correct reading of EPA's guidance.

**Comment:** ACLPI contends that the plan improperly weakens the control requirements applicable to private, publicly-maintained roads because the FIP rule applies to all privately-owned roads that are publicly maintained with greater than or equal to 250 ADT whereas Rule 310.01 applies to publicly-owned roads, extends the time frames for paving roads, and exempts every jurisdiction but the County from paving privately-owned publicly maintained roads. ACLPI notes that while Maricopa County has committed to pave some County minimal maintenance roads within the nonattainment area that currently exceed 150 ADT, it is only required to pave those that meet the criteria to become public highways or are not excessively costly to pave but asserts that it is "highly doubtful" that many roads will qualify.

**Response:** We are not withdrawing or modifying the FIP fugitive dust rule in this action. Therefore, comments regarding the effect on the FIP rule of approving Rule 310.01 are not germane.

We have done considerable research regarding the control of fugitive dust from private unpaved roads in the metropolitan Phoenix area. See the discussion on private unpaved roads in the section "Implementation of BACM and Inclusion of MSM: Unpaved Roads" in this TSD.

Maricopa County provided us an update on their efforts to identify and pave County minimal maintenance roads. *Email*, Kelly McMullen, MCDOT, to Karen Irwin, EPA, May 4, 2001. The County identified approximately 68 miles of minimal maintenance roads (courtesy grading only) that could have over 150 VPD traffic. Of those roads, the County was unable to gather traffic count information for approximately 3 miles due to repeated counter vandalism or theft. The County included remaining roads with traffic counts over 130 VPD (allowing for short term growth, seasonal variation, etc.) in its program to pave, totaling approximately 65 miles, consisting of approximately 186 segments. Based on project engineer estimates at this time, the County believes that six segments totaling approximately 3.0 miles may exceed the reasonable cost threshold of \$500,000 per mile, or have issues with adjoining property owners that are not possible to resolve within the SIP time frames. The County will evaluate whether another method of dust suppression may be viable for those segments.

Based on Maricopa County's update, we believe that ACLPI's concerns regarding whether any roads will qualify for paving are misplaced.

**Comment:** ACLPI asserts that EPA apparently concludes that overall, Rule 310.01 will be at least as stringent as the FIP rule but provides no data or analysis to support this conclusion and thus its approval of Rule 310.01 in lieu of the FIP rule is arbitrary and capricious and contrary to the Act and EPA regulations which require BACM measures to go beyond a RACM level of control.

**Response:** We are not withdrawing or modifying the FIP fugitive dust rule in this action. Therefore, comments regarding the effect of approving Rule 310.01 in lieu of the FIP rule are not germane.

As we have discussed previously (see page 432), neither the CAA nor EPA guidance mandates that a BACM-level control measure always go beyond the existing RACM-level control measure. Moreover, a BACM demonstration is done source category by source category and not measure by measure. In determining whether a state has provided for the implementation of BACM on a particular category, we need to look at all the control measures for that category. In this particular instance, Rule 310.01 alone does not constitute the entire BACM-level control strategy for unpaved roads. Rather, we determined that the combination of Rule 310.01, Rule 310, and city and town commitments that constitute the BACM strategy for this category. 65 FR 19964, 19978 and 66 FR 50252, 20564.

**Comment:** ACLPI notes that only Maricopa County has committed to implement the "surface treatment to reduce dust from unpaved roads and alleys" BACM with respect to privately-owned publicly-maintained roads despite the fact that such roads exist within the municipal jurisdictions in the nonattainment area as well. ACLPI again cites CAA section 110(a)(2)(E) and EPA's policy

requirement for 100 percent implementation. ACLPI asserts that EPA's "belief" that the cities are committed to controlling heavily trafficked unpaved roads in their jurisdictions and to gaining public ownership of any such roads is speculative and inadequate as a demonstration of adequate personnel, funding and authority.

**Response:** As we have discussed previously (see page 427), ACLPI is incorrectly interpreting EPA's guidance. Our guidance (*Addendum* at 42014) does not demand states implement a measure 100 percent unless 100 percent implementation is infeasible. Rather, it suggests that a state not consider "full implementation on all sources in the nonattainment area" as the only possible implementation scenario for evaluating a measure's economic feasibility and that before it rejects a measure as economically infeasible, it should first consider less extensive implementation.

As we have also discussed previously (see page 430), CAA section 110(a)(2)(E) requires a state to provide assurances of adequate personnel, funding and authority only for those control measures that are in its submitted implementation plan. It does not require a state to provide such assurances for control measures that are not in its submitted implementation plan. Therefore, where a jurisdiction has not committed to implement a measure, it is not required by CAA section 110(a)(2)(E) to provide assurances of adequate resources.

Our belief that the cities and towns of Maricopa County are committed to controlling heavily trafficked unpaved roads in their jurisdictions and to gaining public ownership of any such roads is founded on outreach we have done to these jurisdictions and information we have collected from them on the number and status of unpaved roads in their communities. See section on under Private Unpaved Roads in the EPA TSD section, "Implementation of BACM and Inclusion of MSM for Unpaved Roads." We also note that long before the development of PM-10 plans for the Phoenix area, the local jurisdictions in the area have been paving unpaved roads because the improvement and maintenance of roadways is one of the primary functions of local government.

**Comment:** ACLPI comments that since Maricopa County and a few other jurisdictions require that all new roads be paved this should be considered BACM and the plan must provide for the implementation of this measure by all jurisdictions or demonstrate that this is infeasible.

**Response:** As we have stated previously (see page 433), the CAA's requirements to implement BACM and include MSM apply to the nonattainment area as a whole and not to each individual jurisdiction within that nonattainment area. Because this is the case, the actions of one jurisdiction within the nonattainment area cannot set a standard for BACM and/or MSM that must either be implemented by all other jurisdictions within the area or demonstrated to be infeasible.

This comment is a variation on another of ACLPI's comments that "EPA's guidance requires that BACM should be adopted and implemented throughout a serious PM-10 nonattainment area unless 100 percent implementation is infeasible." As discussed previously (see page 427), this is not a correct reading of EPA's guidance.

**Comment:** ACLPI comments that EPA's conclusion that the commitments and rules in the serious area plan for controlling unpaved roads are equal to or more stringent than South Coast Rule 1186 and Clark County's PM-10 Offset Paving Program is arbitrary and capricious because it is not based on a quantification of the emission reductions that can be achieved by each of the measures in the commitments/rules and a comparison of these amounts to determine which measure provides the maximum degree of emission reduction.

**Response:** As we have discussed previously (see page 397), we do not believe that quantification is always necessary or possible or can be done accurately enough to be meaningful and therefore cannot and should not be required as the sole means of determining relative stringency.

South Coast Rule 1186 requires owners/operators of unpaved public roads to address roads with greater than the average ADT by paving at least one mile, chemically stabilizing 2 miles, or placing speed limits or speed bumps on 3 miles of road each year over a 9-year span. All or part of 24 local jurisdictions are located in the Maricopa County portion of the Phoenix nonattainment area. Therefore, to be as stringent as the South Coast rule at its most stringent, Rule 310.01 and the local commitments would require that a total of 24 jurisdictions paving at least 1 mile per year per year for 9 years for a total of 166 miles of unpaved road be paved. Phoenix, Scottsdale, and Maricopa County alone have paved already or have committed to pave at least 174 miles of unpaved roads by no later than 2004. See MAG plan, pp. 7-87, 7-91, and 7-94. With the addition of commitments from other jurisdictions and the requirements in Rule 310.01, the Maricopa County unpaved road measures are clearly more stringent than South Coast's Rule 1186.

Clark County's PM-10 Offset Paving Program sets as its *goal* to pave all unpaved roads of 30 ATD or more. The program does not require the paving all unpaved roads of 30 ATD or more. This goal is neither included in a SIP as an enforceable measure nor has it been achieved in practice; therefore, the measure does not represent a "most stringent measure found in the implementation plan or achieved in practice" that must be considered by Arizona.

## 7. Construction Dust

**Comment:** MAG comments that the work practice conditions attached to construction site permits by Clark County were not included in the list of SIP measures evaluated for construction activities because these conditions were not part of the approved SIP.

**Response:** The MSM analysis is not limited to measures in a SIP. The MSM analysis should also consider measures that are achieved in practice. Clark County work practices are achieved “in practice.”

**Comment:** MAG comments that Imperial County APCD Regulation VIII is not more stringent than Maricopa regulations with respect to material handling and transfer noting that while the Imperial County rule requires water spraying for 15 minutes prior to handling and visible emission of less than 20 percent, while MCESD Rule 310 requires the application of water as necessary to meet a visible emission limit of 20 percent; Imperial County allows for the sheltering or enclosing of a transfer operation as an alternative to water applications while MCESD requires the covering or maintenance of 12 percent moisture content in material not being transferred as an additional control.

**Response:** The 20 percent opacity standard does not apply in the Imperial County rule. It is uncertain whether a work practice to spray an undefined amount of water 15 minutes prior to handling bulk materials would be adequate to meet the 20 percent opacity standard in MCESD's rules under all soil and meteorological conditions.

**Comment:** ACLPI disagrees that the mitigation bond measure is merely an enforcement mechanism (as EPA stated in the proposal) rather than a control measure. Noting that CAA section 110(a)(2)(A) requires implementation plans to “include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights)...as may be necessary or appropriate to meet the applicable requirement of [the Act],” ACLPI asserts that a mitigation bond requirement is clearly a control measure[], means, or technique[]” to control PM-10 emissions from construction sites and that it is not an enforcement action against the contractor itself but rather it provides funds for local governments to control PM-10 emissions in the event of contractor noncompliance.

**Response:** The model for the "mitigation bond measure" in the Phoenix serious area plan is a program from Rancho Mirage in southern California. See MAG plan, p. 5-10 and *PM-10 Innovative Strategies: A Sourcebook for PM-10 Control Programs*, OAQPS, EPA, EPA-452/R-93-016 (December 1993), p. 11-2. The Rancho Mirage program requires developers to post letters of credit so that the City can fund the implementation of controls on a developer's site if

that developer fails to comply with the City's fugitive dust rule. Under this program, the bond serves to assure compliance with an existing control measure (the City's fugitive dust rule), but does not impose any new controls. It is an enforcement mechanism because the developer suffers an economic penalty (i.e., the amount of money deposited to meet the bonding requirement, money that would be refunded if the bond is never invoked) for failure to comply.

Clark County Health District Rule 17.1.1. allows the District to require but does not mandate a posting of a surety bond in an amount between \$500 and \$20,000. Like the Rancho Mirage program, the bond is conditioned upon the faithful performance of all conditions of the source's dust control permit and compliance with the District's fugitive dust rule. Again the bond simply ensures compliance with already existing requirements and does not impose any new ones. MSM study, p. C-14.

**Comment:** ACLPI claims that EPA's conclusion that Rule 310 is equally as stringent as South Coast Rule 403 is arbitrary and capricious because it is not based on quantification of emission reductions that can be achieved by each of the measures in the rules and a comparison of these amounts to determine which measures provide the maximum degree of emission reduction.

**Response:** As we have discussed previously (see page 397), we do not believe that quantification is always necessary or possible or can be done accurately enough to be meaningful and therefore cannot and should not be required as the sole means of determining relative stringency. In the case of these measures, a qualitative comparison is adequate to demonstrate to our satisfaction that one rule is more stringent than the other.

The metropolitan Phoenix serious area plan indicates that Rule 403 and Rule 310 each have provisions that are more stringent than the others. MAG plan, p. 10-35. The plan acknowledges that Rule 403 contains more stringent control requirements than imposed by Rule 310. For example, Rule 403 requires that water be applied to soil no more than 15 minutes prior to moving the soil and requires open storage piles to be watered twice per hour or covered. However, the plan indicates that Rule 310's 20 percent opacity limit is generally more restrictive than Rule 403's property line standard.<sup>42</sup> MSM study, p. C-13. The Phoenix plan concludes that, on balance, Rule 310's construction site requirements are equally as stringent as Rule 403's requirements. We agree with this conclusion. We note that MCESD has committed to research, develop and incorporate more specific requirements for dust suppression practices/equipment for construction activities into dust control plans and/or Rule 310. This work provides further assure that Rule 310 is as stringent if not more stringent than Rule 403.

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<sup>42</sup> The MAG plan analysis was done prior to Rule 310 being revised and strengthened in 1999 and 2000. The plan indicates that a 20 percent opacity fugitive dust plume typically disperses to zero visibility within 50 feet downwind of a source. See MAG plan, p. 10-35.

**Comment:** ACLPI comments that EPA's approval of the BACM/MSM demonstration for construction sites is contingent upon commitments by MCESD to add additional control requirements for dust suppression and to make other changes to MCESD Rule 310. While ACLPI agrees that Rule 310 needs strengthening, it asserts that a commitment to make unspecified changes to the rule to achieve a BACM/MSM level of control is inadequate because it does not meet the requirements of the Act for enforceable measures no later than June 10, 2000 (BACM) or as expeditiously as practicable (MSM) and offers no assurances that adequate changes will ever be adopted. ACLPI claims that the techniques for controlling emissions from construction activities and sites are well known (as documented by EPA on pages 172-75 of the annual standard TSD).

ACLPI further asserts that EPA may only approve a plan based on a commitment pursuant to CAA section 110(k)(4) and then only if the state commits to adopt specific enforceable measures by a date certain but not later than 1 year after the date of approval of the plan revisions. ACLPI claims that MCESD's commitments to improve Rule 310 do not meet the requirements of CAA section 110(k)(4) because it does not commit to adopt specific enforceable measures but only to "research, develop and incorporate" additional unspecified measures for dust suppression practices/equipment into Rule 310 or the dust control plans required under that rule. Finally, ACLPI states that the serious area plan must include the BACM/MSM measures identified from South Coast, Clark County and Imperial County or provide a reasoned justification for their rejection and it is not enough for Maricopa County to commit to studying these measures.

**Response:** We are approving MCESD's commitments under CAA section 110(k)(3) and not section 110(k)(4). We believe – consistent with past practice – that the Act allows approval of enforceable commitments under section 110(k)(3) that are limited in scope where circumstances exist that warrant the use of commitments in place of adopted measures. These commitments are enforceable by EPA and citizens under, respectively, CAA sections 113 and 304 of the Act.<sup>43</sup>

Section 110(k)(4) provides for the conditional approval of State commitments; however,

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<sup>43</sup> In the past, we have approved enforceable commitments and courts have enforced these actions against states that failed to comply with those commitments. See, for example, *American Lung Association of New Jersey v. Kean*, 670 F. Supp.1285 (D.N.J. 1987), affirmed, 871 F.2d 319 (3rd Cir. 1989); *NRDC v. N.Y. State Dept. of Environmental Conservation*, 668 F. Supp. 848 (S.D.N.Y.1987); *Citizens for a Better Environment v. Deukmejian*, 731 F. Supp. 1448, reconsideration granted in part, 746 F. Supp. 976 (N.D. Cal. 1990); *Coalition for Clean Air, et al. v. South Coast Air Quality Management District, CARB, and EPA*, No. CV 97 - 6916 HLH, (C.D. Cal. August 27, 1999). Further, if a state fails to meet its commitments, we can make a finding of failure to implement the SIP under Section 179(a), which would start an 18-month period for the State to begin implementation before mandatory sanctions are imposed.

these commitments do not need to be enforceable. Commitments approved under section 110(k)(3) are not enforceable by either EPA or citizens, rather the Act provides that the conditional approval will convert to a disapproval if “the State fails to comply with such commitment.”

MCESD's commitments have been adopted by the Maricopa County Board of Supervisors after appropriate public notice and hearing and meet Arizona state requirements for the adoption of enforceable SIP commitments by local jurisdictions. See A.R.S. 49-406 G. and Maricopa County Resolutions. Once we have approved them into the SIP under CAA section 110(k)(3), the commitments are fully enforceable against MCESD and the Board under CAA sections 113 and 304.

We are allowing the use of these enforceable commitment here because it is the only approach available at this time to assure the needed improvements to Rule 310. The information needed to make these improvements and to specify the details of these improvements does not currently exist and must be developed through additional research and investigation.

While the general techniques for controlling dust from construction activities are well known (e.g. watering), the most effective applications of these general techniques for controlling emissions from any particular construction site in Maricopa County (e.g., how much water and when to apply it) are *not* well known. Construction sites differ in soils (affecting the quantity of water needed for effective control), meteorological conditions (affecting the frequency with which water must be applied), equipment size/use (affecting quantity and plume characteristics of dust generated), project phase (affecting quantity and time period of dust generated), and level of activity (affecting quantity of dust generated). The specifics of how controls should be applied to meet the 20 percent opacity standard and other applicable Rule 310 standards will vary depending on these and other site and activity parameters.

One of the enforceable commitments by MCESD is to develop parameters that address various site conditions and are sufficient to ensure that Rule 310's performance standards are met more consistently. The concern captured in this enforceable commitment is that, while it is important for sites to have some flexibility in selecting which control measure(s) to implement, there are field circumstances where the technique must be implemented in a certain manner to be effective. For example, where hydrophobic soils exist under dry meteorological conditions, it may be necessary to water several days prior to ground disturbance to allow water to penetrate to the depth of cut. In some other situations, a tackifier or surfactant needs to be added to the water for better penetration. However, these approaches may be needed only under certain field conditions. MCESD needs additional time to investigate when and where it would be appropriate to require more specific controls and what those controls should be.

Another one of MCESD's commitment is to modify Rule 310's existing opacity standard/test method or add an additional opacity standard(s)/test method(s), so that they better characterize fugitive dust sources that create intermittent plumes. Information on how to do this most effectively is currently lacking. While derivations on EPA Reference Method 9 (the standard opacity test method) observations have been adopted in Rules 310 and 310.01 for unpaved roads and unpaved parking areas to better accommodate the temporal nature of plumes from vehicle passes, additional field research is needed to determine how observation intervals and other aspects of opacity readings can be better tailored to the variety of intermittent plumes generated by construction equipment and activities.

Once we determine that circumstances warrant the use of an enforceable commitment, we believe that three factors should be considered in determining whether to approve the enforceable commitments: (1) whether the commitment addresses a limited portion of the statutorily-required program; (2) whether the state is capable of fulfilling its commitment; and (3) whether the commitment is for a reasonable and appropriate period of time.<sup>44</sup>

First, MCESD's commitments address a very limited portion of the CAA's requirements for the implementation of BACM and the inclusion of MSM. In this case, MCESD's commitments are improvements to aspects of the already-adopted and implemented Rule 310; improvements that, we again emphasize, cannot be made at this time because additional research is needed.<sup>45</sup> Second, MCESD has committed resources adequate to fulfill its commitments and has provide information on its work plan for completing the necessary technical work. See Maricopa County commitments as revised December 19, 2001.

The final factor is whether the commitment is for a reasonable and appropriate period. All but one of the commitments have deadlines of December 2002, less than one year from their

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<sup>44</sup> In 1994, in considering EPA's authority under section 110(k)(4) to conditionally approve unenforceable commitments, the Court of Appeals for the District of Columbia Circuit struck down an EPA policy that would allow States to submit (under limited circumstances) commitments for entire programs. *Natural Resources Defense Council v. EPA*, 22 F.3d 1125 (D.C. Cir. 1994). While we do not believe that case is directly applicable here, we agree with the Court that other provisions in the Act contemplate that a SIP submission will consist of more than a mere commitment. *See NRDC*, 22 F.3d at 1134.

<sup>45</sup> As we will discuss later, MCESD has also committed to adopt a rule for certain types of charbroilers. This commitment does not change our analysis here because, even when combined with the commitments to improve Rule 310, it is a very small part of the demonstration that the plan includes MSM.

approval. The other commitment is the implementation of a *second* level of dust control education that will begin in the March to June 2003 time frame. See Maricopa County commitments as revised December 19, 2001. Given the complexity of the tasks required by the commitments, we believe that these schedules are expeditious. Moreover, they are consistent with the attainment and RFP demonstrations in the plan.

Our approach here of accepting enforceable commitments that are limited in scope is not new. We have historically recognized that under certain circumstances, issuing a full approval may be appropriate for a submission that consists, in part, of an enforceable commitment. See e.g., 62 FR 1150, 1187 (Jan. 8, 1997) (ozone attainment demonstration for the South Coast Air Basin); 65 FR 18903 (Apr. 10, 2000) (revisions to attainment demonstration for the South Coast Air Basin); 63 FR 41326 (Aug. 3, 1998) (federal implementation plan for PM-10 for Phoenix); 48 FR 51472 (State Implementation Plan for New Jersey).

Nothing in the Act speaks directly to the approvability of enforceable commitments. However, we believe that our interpretation is consistent with its provisions. For example, CAA section 110(a)(2)(A) provides that each SIP “shall include enforceable emission limitations and other control measures, means or techniques...*as well as schedules and timetables for compliance*, as may be necessary or appropriate to meet the applicable requirement of the Act.” (Emphasis added.) The emphasized terms mean that enforceable emission limitations and other control measures do not necessarily need to be fully adopted to meet the Act's applicable requirements for the implementation of BACM and inclusion of MSM. Rather, the emissions limitations and other control measures may be supplemented with other SIP rules—for example, the enforceable commitments we are approving today—as long as the entire package of measures and rules provides for BACM and MSM.<sup>46</sup>

**Comment:** ACLPI does not agree that Rule 310's 20 percent opacity requirement represents BACM or MSM, noting that on December 18, 2000 EPA disapproved a proposed revisions to Arizona's SIP concerning visible emission sources for, among other reasons, having a 40 percent opacity standard and that EPA had found that a 20 percent opacity standard has been determined to be reasonably available across the country. ACLPI asserts that the serious area PM-10 plan for Phoenix must include BACM and MSM as well as RACM. ACLPI also understands that other areas also have adopted opacity standards more stringent than 20 percent such as Iowa that has a 10 percent opacity standard.

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<sup>46</sup> Our interpretation that the Act allows for a approval of limited enforceable commitments has been upheld by the Ninth Circuit Court of Appeals, as well as by other circuits. See *Kamp v. Hernandez*, 752 F.2d 1444 (9th Cir. 1985); *City of Seabrook v. EPA*, 659 F.2d 1349 (5th Cir. 1981); *Connecticut Fund for the Environment v. EPA*, 672 F.2d 998 (2d Cir.), cert. denied 459 U.S. 1035 (1982); *Friends of the Earth v. EPA*, 499 F.2d 1118 (2d Cir. 1974).

**Response:** ACLPI's comment illustrates the danger of decoupling a rule's control requirements from its applicability. The Arizona rule applies to very different sources than Rule 310. Rule 310 applies to disturbed earth or earthmoving operations at permitted facilities, e.g., disturbed ground at construction site and unpaved roads and parking lots at industrial facilities and active construction operations. Arizona's rule that ACLPI cites is for stationary source operations that emit particulate as part of their manufacturing process (concrete manufacturing, wood processing, etc.). Because the covered sources are different, the Arizona rule is not comparable and does not serve as a BACM or MSM example for the sources covered by Rule 310.

As far as we are able to determine, Iowa does not have a 10 percent opacity standard. It does have a requirement that any excess emissions that result in less than a 10 percent opacity increase over the applicable standard (which depending on the source is 20 percent or 40 percent) may make an oral rather than written report of the excess emissions. Iowa Administrative Code, Chapter 24, 567--24.1(2).

## 8. Agricultural Sources

**Comment:** In its July 20, 2000 comment letter, ACLPI asserted that the commitment in A.R.S. section 49-457 to adopt and implement agricultural BMPs in the future does not adequately address the BACM/MSM requirement.

**Response:** This comment is moot. Today's final determination that the Phoenix serious area PM-10 plan provides for the implementation of BACM and inclusion of MSM for the agricultural source category for both the annual and 24-hour PM-10 standards is based on the SIP-approved general permit rule and not the commitment in A.R.S. section 49-457. We approved the rule on October 11, 2001 (66 FR 51869). While we initially proposed to determine that the Phoenix serious area plan provided for BACM and MSM for the annual standard based in part on the commitment to adopt BMPs in A.R.S. section 49-457, we revised that proposal once the State fulfilled the commitment by adopting and submitting the general permit rule. See 66 FR 50252, 52268.

**Comment:** In comments on the annual standard proposal, several private citizens urged the prompt implementation of agricultural controls.

**Response:** Since the annual standard proposal, Arizona has adopted its rule for controlling dust from agricultural sources. The deadline for sources to comply with it was December 31, 2001. See Arizona Administrative Code R18-2-611. Given the complexities of controlling agricultural sources and the newness of such controls, we believe that the rule was implemented promptly. 64 FR 34726, 34729 (June 29, 1999) and 66 FR 50252, 50269.

**Comment:** ACLPI comments that the CAA requires that SIPs must provide for the implementation of all RACM and that the Governor's Agricultural Best Management Practices Committee identified a variety of available and feasible control measures which are included in the agricultural general permit rule as BMPs. ACLPI asserts that the Rule does not meet the CAA requirement for all RACM because it only requires the implementation of one BMP from each of three categories of farm activities even if the implementation of more than one BMP would be technologically and economically feasible.

**Response:** This comment is neither germane to today's action nor timely. In today's action, we have addressed only whether Arizona's BMP general permit rule provides for the implementation of BACM and the inclusion of MSM. We have not addressed whether it also provided for the implementation of RACM because we have already done so in an earlier rulemaking that was finalized on October 11, 2001. The appropriate time for ACLPI to raise issues regarding whether the general permit rule meets the CAA's RACM requirement for agricultural sources in the Phoenix area was during the comment period on this earlier rulemaking. ACLPI did make similar comments to this one on the proposed approval of the general permit rule as RACM and we fully addressed those comments in the final action. See 66 FR 51869, 51871. See also, 66 FR 34598 (June 29, 2001).

**Comment:** ACLPI claims that the rule does not provide for the implementation of RACM and BACM. To support this claim, it cites to the *General Preamble* at 13541 (a state must submit a reasoned justification for the partial or full rejection of any available control measure that explains with appropriate documentation why each rejected control measure is infeasible or otherwise unreasonable); to 65 FR 58656, 58658 (a state must adopt all available control measures that are not determined to be unreasonable), and the *Addendum* at 42014 (100 percent implementation is required unless it is determined that 100 percent implementation is infeasible).

**Response:** To support its contention that our guidance requires the implementation of all available control measures, ACLPI cites to the *General Preamble* and a 1991 proposal (published at 56 FR 58656 (November 21, 1991)) to reclassify 14 moderate PM-10 nonattainment areas to serious. The *General Preamble* only addresses the RACM requirement. The cite from the 1991 proposal is a discussion on the requirements for demonstrating (in a moderate area plan) that attainment by December 31, 1994 is impracticable. These requirements only apply to RACM. As we noted above, comments regarding whether the general permit rule meets the RACM requirement are neither timely nor germane to this rulemaking.

As we have discussed previously (see page 417), neither the CAA nor applicable EPA guidance requires the implementation of *all* BACM. Both only require that a state provide for the implementation of best available control measures on its significant source categories. See CAA section 189(b)(1)(B) and the *Addendum* at 42014.

As we have also discussed previously (see page 427), our guidance (*Addendum* at 42014) does not demand that states implement a measure 100 percent unless 100 percent implementation is infeasible. Rather, it suggests that a state not consider "full implementation on all sources in the nonattainment area" as the only possible implementation scenario for evaluating a measure's economic feasibility and that before it rejects a measure as economically infeasible, it should first consider less extensive implementation.

**Comment:** ACLPI asserts that the metropolitan Phoenix area plan fails to include the most stringent measures as required by CAA section 188(e) because it does not uniformly require the cessation of tilling on high wind days as South Coast Rule 403 rule does but rather includes it as one measure among several that a farmer may choose to implement. ACLPI further asserts that ADEQ's attempt to justify this deviation by stating that "no research currently exists which demonstrates that cessation of high wind tilling when gusty winds exceed 25 mph in the Maricopa County area is more effective at reducing PM-10 than the agricultural PM-10 general permit..." is irrelevant because the appropriate inquiry is whether the cessation of tilling on high wind days combined with the implementation of at least one other BMP would be more effective at reducing PM-10 which ACLPI claims without supporting data that it would be.

**Response:** South Coast Rule 403 does not require cessation of tilling on high wind days. Rule 403 includes a list of optional measures an affected source can use to reduce PM-10. For agricultural sources affected by Rule 403, the South Coast AQMD developed a series of farming practices that can be used by a grower as alternative means to comply with the requirements of Rule 403. These practices are listed in "Rule 403 Agricultural Handbook: Measures to Reduce Dust from Agricultural Operations in the South Coast Air Basin" ("Handbook"). If a grower decides to opt for compliance with Rule 403 by utilizing the dust control practices in the Handbook, the grower must cease tilling and soil preparation operations when winds are over 25 mph.

The requirement to cease tilling on high wind days is found in Rule 403.1 ("Wind Entrainment of Fugitive Dust"). The requirement is applicable only to the Coachella Valley (Palm Springs area) of the South Coast air basin and has a number of exemptions. See South Coast Rule 403.1, sections (a), (d)(4), and (h)(4).

The BMP general permit includes "limited activity during high wind events" among the list of BMPs from which a grower can select. The BMP Committee and Arizona decided not to *require* cessation of tilling on high wind days as a provision in the general permit for a number of technical and practical reasons, the main ones being the infrequency of high wind events in the Phoenix area, especially in comparison to the frequency of high wind events in the Coachella Valley.

Based on local meteorological data, MAG estimated there were 11 days in 1995 with winds greater than 15 mph. In the Phoenix nonattainment area, the State determined that a small percentage (i.e., 15 percent) of tilling occurs during the high wind season (i.e., March through September). Within the high wind season, only 4 percent of days have wind speeds greater than 15 mph.<sup>47</sup> The Coachella Valley is much more windy, typically experiencing high wind greater than 25 mph on 47 days per year.<sup>48</sup> Based on this information, the BMP Committee and the State determined that an agricultural requirement developed specifically for Coachella Valley high wind conditions was not appropriate for the Phoenix area and that requiring cessation of tilling on high wind days would not be appropriate since it would impact a small number of growers and provide minimal reductions.

We have concluded that Arizona has provided a reasonable justification for not requiring cessation of tilling during high wind events. In the serious area plan, the State demonstrates that the BMP general permit rule as adopted in combination with other adopted measures provides for expeditious attainment of the 24-hour PM-10 standard in the Phoenix area and is not necessary for expeditious attainment of the annual standard in the area. Also, the State through its BMP committee has determined that the requirement for one BMP per category is the most effective economically and technologically feasible control measure for agricultural sources in the Phoenix area. Given all of this, the State has reasonably declined to mandate the cessation of tilling during high winds when faced with an absence of data that it would be make the BMP rule more effective.<sup>49</sup>

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<sup>47</sup> In fact, when using mean hourly wind speed observations averaged over all monitoring sites in the Maricopa County nonattainment area for 1995, it was estimated that there 29 hours with wind speeds between 15 and 19.9 mph, 7 hours with wind speeds between 20 and 24.9 hours, and only one hour with wind speeds over 25 mph. MAG TSD, Appendix II, Exhibit 7 "Wind Criteria and Associated Emissions for Regional Particulate Matter Modeling," Updated April 13, 1999, p. 3.

<sup>48</sup> The Coachella Valley is not the only agricultural area in the South Coast district. Riverside (outside of the Coachella Valley) and San Bernardino Counties are the predominant agricultural areas in region. These areas experience winds greater than 25 mph approximately 25 and 23 days per year, respectively, yet the South Coast does not impose the cessation of tilling requirement in these areas unless a grower opts to use the practices listed in the Handbook as the means of complying with Rule 403.

<sup>49</sup> We note that one exemption from Rule 403.1's cessation of tilling requirement is when tilling activities result in a net reduction of wind blown fugitive dust, an exemption that is applicable only if wind blown fugitive dust is not visible from tilled soil, but is visible from untilled soil within the same agricultural parcel. Rule 403.1 (h)(4)(B). This exemption shows

**Comment:** ACLPI asserts that because Arizona is seeking an extension of the PM-10 nonattainment date to December 31, 2006, it must show that its plan includes the most stringent measure for each source category, including agriculture, citing CAA section 188(e). It then contends that South Coast Rule 403 is significantly more stringent than the general permit rule, noting that Rule 403 establishes six categories of management practices and requires operators to implement at least one of the listed practices in 5 of 6 categories (i.e., Active, Farm Yard Area, Track-Out, Unpaved Roads, and Storage Pile) and three measures in the "Inactive" category. ACLPI claims that when the cessation of tilling on high wind days is included, each commercial farmer is required to implement a minimum of nine control measures and that Arizona's program only requires a total of three control measures. To qualify and obtain an extension of the attainment date, the Arizona SIP must include agricultural measures that are at least as stringent as Rule 403.

**Response:** Neither the CAA nor EPA policy requires that areas seeking attainment date extensions include without exception the most stringent measures for each source category. The CAA requires only that the plan include the most stringent measures found in the implementation plan of other States or used in practice that are *feasible* in the area. See CAA section 188(e). We interpret the MSM provision to not require any measure that is infeasible on technological or economic grounds, any measure for insignificant source categories, and any measure or group of measures that would not contribute to expeditious attainment. See 66 FR 50252, 50282-84.

ACLPI is not correctly characterizing the requirements of the South Coast's agricultural control measures (which are found in Rules 403 and 403.1). Agricultural operations are required to comply with the provisions of Rule 403 unless the person responsible for such operations voluntarily implements the conservation practices contained in the most recent Rule 403 Agricultural Handbook. See Rule 403 (h)(1)(B). The Handbook, and not the rule itself, has the requirement to implement at least one of the listed practices in 5 of 6 categories and three measures in the Inactive category. An operator, however, only has to implement practices for those categories of agricultural operations that they actually have; thus if they do not have one of the activity categories and/or inactive fields then the number of practices s/he must implement is fewer. As we have noted above, the requirement for cessation of tilling on high wind days applies only in the Coachella Valley portion of the South Coast district and is a requirement on all agricultural operations in the other portion of the district only when a grower opts for using the Handbook to comply with Rule 403. Therefore, ACLPI exaggerates the requirements of the South Coast agricultural control program when it claims the program requires each commercial farmer to

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that there are some situations when cessation of tilling during a high wind event is actually counterproductive and thus it is not always more effective to combine it with another BMP.

implement a minimum of nine management practices.<sup>50</sup>

We agree that in general Rule 403 (or the Handbook) is likely to be more stringent than the general permit rule. We, however, also agree, as discussed below, with the State's assessment that the South Coast requirements are infeasible for the Phoenix area and that the general permit rule represents the most stringent economically and technologically feasible agricultural control program for the area.

In assessing South Coast's requirements, the BMP Committee and ADEQ determined that because of the lack of adequate technical information concerning BMP costs and effectiveness, requiring at least one BMP for the three agricultural categories adequately addressed agricultural sources of PM-10 in the Maricopa County nonattainment area. ADEQ concluded that:

The agricultural general permit cannot mirror South Coast Rule 403 for a variety of reasons. One main reason is that agriculture in Maricopa area is primarily flood irrigated. The South Coast has dryland, irrigated, and sprinkler irrigated agriculture. The actual amount of irrigation water and frequency of irrigation can effect wind erosion estimates and the effectiveness of different control measures under different conditions. Therefore, the BMPs for Maricopa County were based on practical applications during those times when the fields were not flooded. Also, because the application of more than one BMP at a time for a selected category would only provide incremental PM-10 reductions, sometimes at an uneconomical cost, flexibility was provided in the rule to allow the expert (the farmer) to decide what BMP should be applied when and where.

As we discussed in the proposal for the 24-hour standard (see 66 FR 50252, 50268) and as we concluded in our original FIP measure for the agricultural sector (63 FR 41332), the BMP Committee found that agricultural PM-10 strategies must be based on *local* factors because of the variety, complexity, and uniqueness of farming operations and because agricultural sources vary by factors such as regional climate, soil type, growing season, crop type, water availability, and relation to urban centers.

While the Committee surveyed measures adopted in other geographic areas, including

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<sup>50</sup> We also note that for inactive fields, the Handbook allows agricultural operators to comply with local jurisdiction requirements in lieu of implementing three practices (Handbook, section II, p.4.) and that a field which has been withdrawn from agricultural use in the Phoenix area becomes subject to MCESD Rule 310.01's BACM/MSM-level requirements for open areas and vacant lots. All these control options demonstrate that the six categories/nine practices versus three categories/three practices comparison is misleading.

South Coast, these measures were of limited utility in determining what measures are available for the Maricopa County area. Given the limited scientific information available and the myriad factors that affect farming operations, the BMP Committee concluded that requiring more than one BMP could not be considered technologically justified and could cause an unnecessary economic burden to farmers. BMP TSD, p. 18.

Adding to concerns about the economic feasibility of requiring more BMPs per farming activity is the general uncertainty regarding the cost of the BMPs and continued viability of agriculture in Maricopa County. Between 1987 and 1997, the number of farms operating in Maricopa County declined by approximately 30 percent and the amount of land farmed declined by approximately 50 percent. This trend is expected to continue. Finally, in order to justify additional requirements for farming operations in the area beyond those in the general permit rule, the BMP Committee determined that a significant influx of money and additional research would be needed. Based on all of these factors, the BMP Committee concluded that the Handbook's approach was neither technologically nor economically feasible for agricultural sources in Maricopa County and therefore are not feasible for the Phoenix area. BMP TSD, p. 18.

We agree with the analysis of the BMP Committee. As noted previously, the development of the general permit rule was a multi-year endeavor involving an array of agricultural experts familiar with Maricopa County agriculture. Maricopa County is only the second area in the country where formal regulation of PM-10 emissions from the agricultural sector has ever been attempted. We conclude that the Rule 403's and the Handbook's requirements are neither technologically nor economically feasible for Maricopa County and thus Arizona need not include them in the Phoenix serious area plan in order for us to grant an attainment date extension under CAA section 188(e).

**Comment:** ACLPI claims that there is no justification for relaxing the stringency of Rule 403 because virtually all of the control measures listed in Rule 403 are in the Arizona rule and so it is clear that their implementation is feasible. ACLPI asserts that Arizona's contention that "the application of more than one BMP at a time for a selected category would only provide for incremental PM-10 reductions sometimes at an uneconomical cost," is not supported by any competent data, improperly delegates regulatory discretion to the regulated community, and ignores the clear mandates of the Act.

**Response:** We agree that the many of the individual best management practices in the Rule 403 Agricultural Handbook are also feasible practices for the Phoenix area. Arizona, through the BMP committee, also agreed and incorporated many of them into the general permit rule. However, the feasibility and adoption of any one BMP has little relevance here because neither Rule 403, the Handbook, nor the general permit rule requires the implementation of any specific BMP, rather they require the implementation of at least one BMP from a list of possible BMPs for each of

several categories of farm operations.

As has been noted many times before, little data is available on the cost of implementing specific BMPs in the Phoenix area. Using what little data was available and the technical expertise of local farmers, state and federal agricultural agencies,<sup>51</sup> and agricultural experts from the University of Arizona, Arizona determined that requiring the implementation at least one BMP for each of the three categories of agricultural activities is the most stringent level of control that is economically and technologically feasible for the Phoenix area. This conclusion was arrived at only after a lengthy and open process and only after taking into consideration South Coast's approach to agricultural control. See 66 FR 3458, 34601 (June 29, 2001). Other than pointing to South Coast's rule, ACLPI has presented no data to refute these experts.

We do not agree that the general permit rule improperly delegates regulatory discretion to the regulated community. The general permit rule follows the same general control format as Rules 310 and 310.01. This format allows the regulated entity (e.g., construction site operator, vacant lot owner, unpaved parking lot owner, etc.) to choose from a list of options for controlling its source.<sup>52</sup> For example, an unpaved parking lot owner may pave, gravel, or apply a chemical stabilizer. See Rule 310.01, section 303.1. This control format is the standard model for fugitive dust rules and has developed over time because of the need to impose effective but reasonable and feasible controls on a large number of similar but distinct sources. For the Phoenix serious area plan, we have found that the control measures using this format provide for the implementation of BACM and the inclusion of MSM for a number of significant source categories. As much as (if not more so than) an unpaved parking lot owner or a vacant lot owner, a grower is in the best position to determine which BMPs are best and most effective for the conditions on his/her farm.<sup>53</sup>

**Comment:** DWA contends that the metropolitan Phoenix serious area plan does not provide for

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<sup>51</sup> The BMP Committee is composed of five local farmers, the Director of ADEQ, the Director of the Arizona Department of Agriculture, the State Conservationist for the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) state office, the Dean of the University of Arizona's College of Agriculture, and a soil scientist from the University of Arizona.

<sup>52</sup> This control format is also used in South Coast's fugitive dust rules, including Rules 403, 403.1, and 1186. We approved these rules on December 9, 1998 (63 FR 67784).

<sup>53</sup> Neither the individual growers nor the BMP committee are involved in the enforcement of the BMP general permit rule. Under A.R.S. 49-457(I), (J), and (K), ADEQ, alone makes the determinations regarding the compliance of a source with the general permit and when to take enforcement actions.

MSM because it does not include California's agricultural dust control measures.

**Response:** For the reasons discussed above, we believe that the metropolitan Phoenix serious area plan does include MSM and that Arizona has demonstrated to our satisfaction that California's (which we take to mean South Coast's) agricultural control measures are infeasible for the Phoenix area.

**Comment:** ACLPI asserts that because the general permit rule fails to require any specific control requirements, there is no way that the State can know or meaningfully predict what the effect of the rule will be and thus any estimated emissions reduction is entirely speculative and thus inadequate under the CAA.

**Response:** As we noted in a previous comment, the general permit rule follows the same standard control format used by many fugitive dust rules, such as Rules 310 and 310.01 (and Rule 403 and the Rule 403 Agricultural Handbook). This format allows the regulated entity to choose from a list of options for controlling its source.

Emission reductions from these types of rules need to be quantified because they often constitute the primary control strategy needed to demonstrate attainment and/or RFP. The accepted methodology for quantifying them is to assume that some fraction of the regulated sources will choose a particular control option. For example, the assumption used in the Phoenix plan to quantify emission reductions from the unpaved parking lot measure is that one third of the regulated lots will be paved, one-third will be graveled, and one-third will be chemically stabilized. See MAG TSD, p. V-17. Provided that the assumptions are reasonable, we accept the resulting emission reductions estimate.

To prepare the emission reductions estimates for the general permit rule, ADEQ hired URS. To estimate the reductions, URS determined the most likely implementation scenario. This scenario was based on existing information on the crops grown and their acreage in the Phoenix area as well as on interviews of growers in the Phoenix area about which BMPs they would most likely use in certain situations. The growers, having intimate knowledge of the crops and growing conditions in the area, are the technical experts on how the BMP rule will be implemented. By going to the technical experts, URS and Arizona reduced the level of uncertainty in the emission reduction estimates to the extent practicable.

We believe that their approach is reasonable given the situation. Most of the BMPs have never been applied in Maricopa County or elsewhere, and until the BMPs are fully implemented and ADEQ has had adequate time to evaluate their effectiveness, there will always be some degree of uncertainty regarding actual emission reductions. While it is possible that the reductions could be less than expected, it is equally plausible that the reductions will be greater than expected.

We note that no matter how specifically a rule is written, no one can ever know for certain what the future emission reductions from it will be. Estimates of future emission reductions require assumptions about future activities that are always speculative to a degree. In making emission reduction estimates, we attempt to reduce the uncertainties to the extent possible, but we can never totally eliminate them.

Quantification of emission reductions from rules is a necessary part of meeting the Act's requirements for reasonable further progress and attainment demonstrations and quantitative milestones. Beyond setting the requirements (and requiring attainment demonstrations be based on air quality modeling, see, for example, CAA section 189(b)(1)(A)), the Act leaves it to EPA's expertise to determine what constitutes technically acceptable demonstrations. As we have discussed above, Arizona followed standard and accepted procedures for quantifying emission reductions from the BMP general permit rule and as a result we find the resulting estimates acceptable for use in the serious area plan.

#### 9. Residential Woodburning

**Comment:** ACLPI notes that the plan's woodburning curtailment program does not contain a second stage of curtailment at which exemptions are limited to low-income households, as recommended by EPA BACM guidance and asserts that the plan fails to provide a reasoned justification for rejecting the measures. ACLPI also notes that EPA recommends that the County revise the ordinance to add a second stage curtailment yet approves the measure as BACM asserting that this approval violates EPA's own policy and guidance.

**Response:** EPA BACM guidance and our comments on Maricopa County Woodburning Ordinance in the annual standard are recommendations and requirements for meeting BACM. While we recommended the additional stage, we believe that the second stage is not necessary to provide for BACM in the Phoenix area. MCESD, in its comments on the annual standard proposal, stated that the incremental reduction from a second stage curtailment to be 0.1 metric tons per day. See Letter, Al Brown to Frances Wicher, July 27, 2000. This reduction is so small that, even in combination with other identified but unadopted measures, it would not result in more expeditious attainment.

**Comment:** ACLPI asserts that the serious area plan rejects a number of BACM/MSM measures applicable to residential woodburning without providing a reasoned justification for rejection of the measures listing these measure as weatherization of homes; retrofitting existing fireplaces and uncertified installations; implementing a device offset and/or upgrade offset program; limiting the emission rate of new wood stoves and fireplace inserts to 60 percent of EPA Phase II standards; and prohibiting the installation of solid fuel burning devices in any new or modified structure.

**Response:** After reviewing comments from MCESD, we determined that the serious area plan does provide reasoned and acceptable justifications for rejecting all these measures. See Letter, Al Brown to Frances Wicher, July 27, 2000 and Maricopa County commitments, Justification for Non-Implementation for MAG 1998 Serious Area Particulate Plan for PM-10.

**Comment:** MCESD provided additional information on the reasoned justifications for rejecting a number of woodburning control measures.

**Response:** We have reviewed this additional information which adds support to our finding that the Phoenix serious area plan provides for the implementation of BACM and the inclusion of MSM for the residential woodburning source category.

#### 10. MCESD's Commitments to Improve Compliance and Enforcement

**Comment:** ACLPI questions whether MCESD can meet its commitment to 80 percent compliance with these rules without increased inspections, quicker response times, and the ability to assess administrative penalties on violators and believes that these enhancements should be included in the plan as at least contingency measures. ACLPI also believes that the County should conduct random night-time inspections in addition to inspections on weekends and request the County post all compliance and enforcement information on its website.

**Response:** MCESD is working diligently to improve its compliance and enforcement program, including increasing inspections and decreasing response time to complaints. We too would like to see MCESD have the ability to assess administrative penalties because they provide yet another enforcement tool; however, we believe that MCESD increase compliance with its fugitive dust rules to 80 percent if it continues its current progress to improve its program.

As to ACLPI's other recommendations, we will forward them to MCESD.

**Comment:** A number of private citizens were concerned about the lack of enforcement by MCESD and encouraged EPA to carefully monitor the Department's efforts.

**Response:** We were also greatly concerned by MCESD's enforcement record and initially rejected the metropolitan Phoenix serious area plan because it depended too heavily on MCESD enforcement to attain the PM-10 standards. Since that time, MCESD has expanded its enforcement program and greatly increased the number of enforcement actions and penalties taken against fugitive dust sources. It has also made commitments to improve its rules to improve their enforcement.

We continue to work closely with MCESD on its efforts to assure compliance with its

fugitive dust rules. We have done a number of inspections ourselves of fugitive dust sources in the Phoenix area and have found much better compliance with the rules.

**Comment:** One private citizen suggested that until adequate and substantiated progress is made in decreasing PM-10, construction should be curtailed for the entire area and then only reinstated on an environmentally-friendly basis in regards to all aspects including dirt and equipment.

**Response:** Construction is but one of the sources that contribute to elevated PM-10 levels in the Phoenix area. Other significant sources included paved road dust, farming, unpaved roads, and vacant lots. Curtailing construction would have no impact on these other sources. We believe full compliance with MCESD's fugitive dust rules in much reduced emissions from construction sources. As to construction equipment, EPA nationally has adopted rules for controlling emissions from these sources.

#### Attainment Date Extension

##### 1. Demonstrate the Impracticability of Attainment by the 2001

**Comment:** ACLPI disagrees with EPA's conclusion that the metropolitan Phoenix serious area plan adequately demonstrates that attainment by December 31, 2001 is impracticable because the plan fails to adopt all BACM for significant sources (as discussed in other ACLPI comments), fails to implement some measures in a timely manner or relies on mere commitments and improperly excludes BACM for de minimis sources. ACLPI asserts that the plan improperly fails to analyze whether the area would be in attainment by the 2001 deadline if all BACM were adopted and implemented on time.

**Response:** We have carefully reviewed the plan and have found that it provides for the implementation of BACM on all significant source categories, assures timely implementation of measures, and relies on enforceable commitments only where they are the only feasible means of providing for the implementation of BACM, MSM, or other measures necessary for timely attainment. See 65 FR 19964, 19984 and 66 FR 50252, 50273.

As we have discussed previously (see page 417), neither the CAA or EPA guidance requires the implementation of *all* BACM. Both only require that a state provide for the implementation of best available control measures on its significant source categories. See CAA section 189(b)(1)(B) and the *Addendum* at 42014.

Contrary to ACLPI's assertion, the plan does provide a clear demonstration that even with the implementation of BACM on all source categories including de minimis categories, the Phoenix area would not be in attainment of either PM-10 standard by the end of 2001. This

demonstration is a necessary part of showing that the plan correctly determines which source categories are de minimis and which are significant. See MAG plan, pp. 9-9 to 9-15 and the section "BACM Analysis – Step 2, Model to Identify Significant Sources" in the EPA TSD. As discussed previously, both the CAA and EPA policy do not require BACM for de minimis sources of PM-10.

## 2. Complied with Commitments and Requirements in the SIP

**Comment:** ACLPI comments that Arizona cannot show that it has implemented all the control measures in prior SIP revisions because it is no longer implementing the remote sensing program component of its approved inspection and maintenance program and therefore does not qualify for an attainment date extension.

**Response:** As discussed previously, this criterion is limited to the implementation status of measures contained in previously submitted PM-10 plans. The remote sensing (RSD) program was adopted as an element of the State's ozone and carbon monoxide implementation plans and not part of its PM-10 plan; therefore, we do not need to consider its implementation status when determining if Arizona has complied with commitments and requirements in the SIP. We have reviewed the Phoenix serious area plan and have found that it provides for the implementation of BACM and MSM for on-road motor vehicles in the absence of the RSD component of its inspection and maintenance program

## 3. Include the Most Stringent Measures

**Comment:** ACLPI disagrees that the metropolitan Phoenix serious area plan meets the requirement to include the MSM for the reasons discussed in its comments.

**Response:** As described in the proposals (65 FR 19964, 19984 and 66 FR 50252, 50274 and the EPA TSD "Extension Request – Demonstrate the Adoption of the Most Stringent Measures"), we have found the plan includes to our satisfaction the MSM found in the implementation plan of any other State or achieved in practices.

**Comment:** ACLPI disagrees that the serious area plan provides the inclusion of MSM with respect to three de minimis sources: cattle feedlots, incinerators, and charbroiling. For cattle feedlots, ACLPI asserts that South Coast's Rule 1186 pertaining to unpaved roads at cattle feedlots is clearly more stringent than Maricopa County's existing rule and must be adopted for that reason. For incinerators, ACLPI asserts that the plan fails to include MSM because it does not adopt Clark County's opacity limit for incinerators. For charbroilers, ACLPI asserts that the plan fails to include MSM because it does not require existing and new chain-driven and underfired charbroilers to install emission control equipment as South Coast is proposing to do. ACLPI

asserts that the plan cannot rely on a commitment by MCESD to adopt South Coast's charbroiler rule to meet the MSM requirement.

**Response:** Because incinerators are so small a source (less than 7.1 kg/d), are already controlled, and additional controls on them would not advance the attainment date, we found that the plan can provide for the inclusion of MSM to our satisfaction without including Clark County's opacity limit for incinerators.

We do not agree with ACLPI's statement that the South Coast Rule 1186 requirements for cattle feedlots are clearly more stringent than Maricopa Rule 310.01 requirements. In evaluating controls for cattle feedlots, we found that the two regulations cannot be adequately compared because they cover distinct aspects of dairy farm operations. Rule 1186 does not address fugitive dust emissions from cow activity on the land, but instead controls dust from unpaved roads and hay grinding. Rule 310.01 addresses fugitive dust emissions from cow activity on the land, but not from unpaved roads and hay grinding. We also determined that hay grinding in Maricopa County occurs primarily at feedmills, which are permitted sources already subject to other requirements. Since representatives from both South Coast AQMD and MCESD indicate that unpaved roads associated with dairy farms are typically low traffic (e.g. 10-20 ADT), there is no basis to support a conclusion that control of dairy unpaved roads under South Coast Rule 1186 provides more emission benefits than control of dust from disturbed animal pens in Maricopa County.

At the time the plan was submitted, South Coast had not adopted its rule for existing and new chain-driven and underfired charbroilers; therefore, the measure was not in an implementation plan or achieved in practice and not a potential MSM under CAA section 188(e). As a result, the plan cannot fail to include MSM because it does not include this measure.

MCESD has made an enforceable commitment to adopt South Coast's rule for existing and new chain-driven and underfired charbroilers. See Maricopa County commitments, Revised Measure 23. As discussed previously, we believe that the Act allows approval of enforceable commitments that are limited in scope where circumstances exist that warrant the use of such commitments in place of adopted measures. In this case, we explained that a commitment was warranted because South Coast's rule, which is nearing adoption, will establish the most stringent control requirements for underfired charbroilers and thus set the standard for other areas. 66 FR 50252, 50275. This measure represents a very small part of the overall PM-10 plan and is not relied on for either RFP or attainment of the PM-10 standards in the Phoenix area. For further discussion of enforceable commitments and their role in implementing the CAA, see page 442.

**Comment:** MAG comments that EPA's MSM analysis of MCESD Rule 310.01 was incorrectly limited to unpaved roads at cattle feedlots and that the MSM analysis in the plan clearly indicates that the 20 percent opacity limit applies to all sources at livestock operations including cattle

feedlots except at such times as wind velocities exceed 25 miles per hour. MAG notes that because such wind conditions occur about 1 hour per year, South Coast's rule is not more stringent.

**Response:** Rule 310.01 does not apply to unpaved roads at cattle feedlots and therefore, the MSM analysis correctly focused on South Coast provisions for controls on unpaved roads at cattle feedlots.

**Comment:** MAG comments that in the TSD EPA has concluded that South Coast's restriction on hay grinding between 2:00 and 5:00 pm if visible emissions extend more than 50 feet is more restrictive but states that it determined that the MCESD Rule 310's 20 percent opacity limit is roughly equivalent in control of hay grinding emissions and therefore South Coast rule is not more stringent.

**Response:** We did not conclude that South Coast's restrictions on hay grinding were more stringent, only that hay grinding in Maricopa County occurs primarily at feedmills, which are permitted sources and thus already subject to other requirements.

#### 4. Demonstrate Expeditious Attainment

**Comment:** ACLPI disagrees with EPA's conclusion that the metropolitan Phoenix serious area plan adequately demonstrates attainment by the earliest date practicable after December 31, 2001 because the plan fails to adopt all feasible MSM, fails to implement some measures in a timely manner or relies on mere commitments and improperly excludes MSM for de minimis sources. ACLPI asserts that the plan improperly fails to analyze whether the area would be in attainment earlier if all MSM were adopted and implemented in a timely manner.

**Response:** As described in the EPA TSD section "Extension Request – Demonstrate Attainment by the Most Expeditious Alternative Date Practicable after December 31, 2001," we have carefully reviewed the plan and have found that it includes all feasible MSM to our satisfaction, assures timely implementation of measures, and relies on enforceable commitments only where they are the only feasible means of providing for the implementation of MSM or other measures necessary for timely attainment. We note again that the Phoenix plan did not exclude any MSM on the basis of de minimis source categories.

Contrary to ACLPI's assertion, the serious area plan does provide a clear demonstration that attainment is expeditious. See MAG plan, pp. 8-18 and section "Extension Request – Demonstrate Attainment by the Most Expeditious Alternative Date Practicable after December 31, 2001" in the EPA TSD.

**Comment:** A number of public citizens requested that we not grant the Phoenix nonattainment

area a 5-year extension to meet the PM-10 standards. Most objected because of the continuing public health problems associated with not attaining the PM-10 standards for another five years. Most also noted the historical failure of Maricopa County and others to deal with the problem and objected to granting them more time. Other commenters cited the increased costs associated with delayed control of the problem.

**Response:** Granting an extension of the attainment date is not the same as granting permission for a state to delay imposing controls. Under the metropolitan Phoenix serious area plan, the majority of the emission reductions needed to attain the PM-10 standards and their associated health benefits are realized by 2001. See EPA TSD section "Reasonable Further Progress and Quantitative Milestones." The five-year extension period is necessary to provide time for funding capital intensive projects such as paving unpaved roads and purchasing PM-10 efficient street sweepers and for educating sources in order to improve compliance rates to the levels needed to get the last increment of emission reductions needed to attain.

**Comment:** Dr. Keith Parizek of Phoenix performed modeling of the Squaw Peak Freeway (Arizona 51), based on model inputs provided to him by staff at ADEQ, EPA, and elsewhere. His modeling uncovered possible violations of the 24-hour PM-10 standard, worsening with time as vehicle travel increases. (The Long Range Transportation Plan, 6/99 update, projects traffic for the Squaw Peak Freeway to increase from 106,000 vehicles per day in 1995 and to 228,000 vehicles per day in 2019.)

**Response:** Dr. Parizek's analysis was a reasonable application of the CAL3QHC model, and AP-42 emission factors for paved roads. However, more refined modeling does not show that there were exceedances of the PM-10 standards.

The CAL3QHC model is a screening model; it is designed to give conservatively high concentrations. In particular, a given run of the model calculates concentrations for all wind directions, and chooses the highest. Also, it is capable only of modeling only a fixed wind speed and a fixed traffic volume in any one run. To replicate real world conditions, in which wind direction, wind speed, and traffic volume vary over time, it is necessary to make an very large number of model runs. In practice, such as in Dr. Parizek's analysis, a smaller number of simulations of worst case conditions is done. If a standard exceedance is suspected, then a more refined approach can be tried to take into account more of the real world variations, such as by using the CAL3QHCR model.

We performed CAL3QHC simulations of worst case conditions, and of 24 individual hours on the day with the most traffic. Concentrations were evaluated at the Parizek lot, which is unusually close to the roadway; further away, concentrations would be less. PM-10 emissions from vehicles on paved roads are dominated by re-entrained road dust (as opposed to tailpipe

exhaust), so emissions vary only with traffic volume, not with vehicle speed or meteorological conditions (EPA's PART5 model, and *Compilation of Air Pollutant Emission Factors*, AP-42, Fifth Edition, Volume I, EPA, 1995, Chapter 13.2.1 Paved Roads). The crucial input is silt loading on the roads; ADEQ and MAG have put this at 0.07 g/m<sup>2</sup> (roughly half the AP-42 default for limited access roads).

The results for default worst case conditions (wind speed 1 m/s, neutral stability) are shown in the table below. They include a factor of 0.4 to convert from CAL3QHC's 1-hour average to a 4-hour average, per EPA's screening procedures (though it was derived for a somewhat different purpose; *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised*. (EPA-454/R-92-019, October 1992)).

<b>TABLE RTC-1</b> <b>SCREENING SIMULATION, CAL3QHC AND 0.4</b> <b>PERSISTENCE FACTOR</b> <b>(PM-10 IN ? G/M<sup>3</sup>)</b>		
YEAR	MIXING HEIGHT,	
	1000 METERS	30 METERS
2000	143	158
2005	166	187
2010	193	213
2015	220	243

The default mixing height in CAL3QHC is 1000 m (Guideline for Modeling Carbon Monoxide from Roadway Intersections EPA-454/R-92-005, November 1992.), but mixing heights of 30 m are known to occur in the Phoenix area, especially during the colder months.

For somewhat more realism, 24 individual hours were modeled, using traffic volume from the most heavily traveled day (Friday in March, according to vehicle count data). This avoids assuming maximum traffic all the time. The concentrations are higher than for the previous simulations, indicating that the 0.4 factor used there is probably too low.

<b>TABLE RTC-2</b> <b>SCREENING SIMULATION, CAL3QHC AVERAGE OF 24</b> <b>INDIVIDUAL HOURS</b> <b>(PM-10, ? G/M<sup>3</sup>)</b>		
<b>YEAR</b>	<b>MIXING HEIGHT</b>	
	<b>1000 METERS</b>	<b>30 METERS</b>
2000	230	259
2005	266	301
2010	310	350
2015	353	399

These results are similar to Dr. Parizek's, though the assumptions are somewhat different. These concentrations are alarmingly high, and do not even include a background level for the area of about 40 µg/m<sup>3</sup>.

To investigate further, we ran the CAL3QHCR model. This model is similar internally to CAL3QHC, except that it can accept actual meteorological data and it allows for variation in traffic and emissions by hour for different days of the week. It is an involved task to translate vehicle count data and emissions that vary with meteorology into the form required by CAL3QHCR. Fortunately, since paved road emissions do not vary with temperature or vehicle speed, the task is considerably simpler than for carbon monoxide (for which a similar analysis was done). For each of the four chosen years, the model was run with 5 years of meteorological data.

<b>TABLE RTC-3</b> <b>CAL3QHCR SIMULATION, SKY HARBOR + TUCSON</b> <b>METEOROLOGY</b> <b>(PM-10, ? G/M<sup>3</sup>)</b>					
YEAR	METEOROLOGICAL DATA YEAR				
	1987	1988	1989	1990	1991
2000	53	46	41	41	40
2005	63	55	48	49	48
2010	74	64	56	57	56
2015	84	73	64	65	64

These results are considerably lower than found with the screening methodology. Even adding in a typical background of about 40  $\mu\text{g}/\text{m}^3$ , based on data from North Phoenix monitoring site, the 24-hour PM-10 standard is not threatened. (While the North Phoenix site can sometimes exceed the NAAQS, standard practice and EPA guidance use a typical or average background value rather than the maximum. *Guideline on Air Quality Models*, 40 CFR 51, App. W, section 9.2.) The key cause of the difference from the previous results is that in the more refined approach in CAL3QHCR, meteorological and traffic conditions are allowed to vary, rather than being fixed in more or less "worst case" conditions in CAL3QHC.

Because there is some question as to whether the upper air data from Tucson yields representative mixing heights for Phoenix, and low mixing heights can occur, a second set of simulations was performed using 1987, which had the highest PM-10 concentrations in the previous runs. These used the same mixing heights that were used in Urban Airshed Model (UAM) simulations of Phoenix carbon monoxide, in the CO SIP submitted by the Maricopa Association of Governments, 1997. These vary from 145 m down to 30 m during peak traffic hours, whereas the Tucson mixing heights can be over 1000 m. With less volume to disperse in, PM-10 would be expected to reach higher concentrations.

<b>TABLE RTC-4                      CAL3QHCR SIMULATION, 1987                      METEOROLOGY, UAM MIXING HEIGHTS                      (PM-10, ? G/M<sup>3</sup>)</b>	
<b>YEAR</b>	<b>PM-10</b>
2000	54
2005	64
2010	75
2015	85

The lower mixing heights caused only a very slight increase in PM10 concentrations, which remain well below the NAAQS even if background is included.

We conclude that, despite a substantial contribution to PM-10 concentrations, the Squaw Peak Freeway does not threaten the 24-hour PM10 standard, even with large projected growth in traffic.

5. Other Factors that EPA May Consider

**Comment:** MAG comments that it used the vacant lot source category as the surrogate fugitive dust source for determining population exposure because information on its distribution throughout the nonattainment area was well documented unlike many of the other fugitive dust sources and the manner in which it did the analysis overestimated population exposed to vacant lot dust to compensate for other sources.

**Response:** We have corrected the text in Table FAC-1 in the EPA TSD section “Extension Request – Other Factors that EPA May Consider in Granting an Extension Request” to respond to this comment.

### Contingency Measures

**Comment:** ACLPI comments that the plan fails to include contingency measures, noting the purpose of contingency measures is to assure continued progress toward attainment while the SIP is being revised if a state fails to make RFP or attain by the applicable attainment date. ACLPI asserts that if a state fails to make RFP or timely attain, the obvious conclusion is that the currently implemented control measures are insufficient and additional measures are needed and that this is true regardless of whether the implemented measures were relied upon in the RFP and attainment demonstrations and for this reason, EPA's suggestion that the contingency measure requirement can be satisfied by committed measures that are implemented but not relied upon in the demonstrations defeats the purpose. ACLPI contends that the proposed SIP must include contingency measures that will take effect without further action by the State or Administrator and the SIP does not include any such measures.

**Response:** The metropolitan Phoenix serious area plan does contain contingency measures. For the annual standard, the plan relies on the agricultural BMP general permit rule as a contingency measure. For the 24-hour standard, the plan relies on the paving or treatment of unpaved roads measure. Both measures are currently being implemented but the emission reductions from them are not necessary for demonstrating RFP and attainment for the annual standard (general permit rule) and 24-hour standard (unpaved road measures).

Failure to make RFP or attain does not necessarily mean that new controls must be adopted. Failure to make RFP or attain can be the result of the failure to implement already committed to or adopted controls, delays in the implementation of control measures, and noncompliance. In these cases, correcting the implementation problem or noncompliance corrects the RFP or attainment failure.

There are a number of benefits to allowing and even encouraging the early implementation of contingency measures. The chief benefit is that their emission reductions and thus their public health benefit are realized early. Another is that it allows states to build uncredited cushions into their attainment and RFP demonstrations, a cushion which makes actual failures to make progress or attain less likely.

Measures that have already been implemented clearly meet the section 172(c)(9) requirement that contingency measures take effect without further action by the State or Administrator.

**Comment:** ACLPI asserts that the Agricultural BMP general permit rule cannot be used as a contingency measure because it is not a "specific measure[] to be undertaken if the area fails to make reasonable further progress, or to attain the [NAAQS]..." and there is nothing in the rule that

is triggered upon a showing of failure to make RFP. ACLPI quotes EPA guidance at 60 FR 56129 that “[c]ontingency measures should consist of other control measures that are not part of the area’s control strategy.”

**Response:** We note that the Agricultural BMP general permit rule is a contingency measure for the annual standard only. Emission reductions from the rule are not necessary to demonstrate RFP or expeditious attainment, and therefore, the rule is not part of Arizona’s primary control strategy for attaining the annual standard. Emission reductions from the rule are necessary to demonstrate RFP and expeditious attainment of the 24-hour standard and the State chose a different measure, the unpaved road measure, to serve as the contingency measure for the 24-hour standard.

Nothing in CAA section 172(c)(9) requires that contingency measure be triggered *only* if there is a failure to make RFP or to attain.<sup>54</sup> Contingency measure must be undertaken if there is a failure to make RFP or attain but the Act does not bar a state from using other triggers as a reason to implement them, e.g., a determination that the measure is needed for attainment of another standard or to meet another CAA requirement. This is the case here; the BMP general permit rule is both needed for attainment of the 24-hour standard and to meet the CAA’s BACM requirement.

Areas that must meet the BACM, MSM, and “attainment by the earliest alternative date practicable” requirement are in a difficult position when it comes to contingency measures. Adopted but unimplemented contingency measures are likely to be feasible BACM and/or MSM and represent sufficient emission reductions to advance the attainment date. We discussed this dilemma in the proposed approval for the 24-hour standard at 66 FR 50252, 50279:

Certain core control measure requirements such as RACM, BACM, and MSM may result in a state adopting and expeditiously implementing more measures than are strictly necessary for expeditious attainment and/or RFP. Because of this and because these core requirements effectively require the implementation of all non-trivial measures that are technologically and economically feasible for the area, states are left with few, if any, substantive unimplemented control measures. In fact, under the Act’s PM-10 planning provisions, if there were a measure or set of measures that were technologically and economically feasible and could collectively generate substantial emission reductions, e.g., one year’s worth of RFP, then a state would be hard pressed to justify withholding their implementation.

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<sup>54</sup> CAA section 187(a)(3) adds another trigger for contingency measures in certain carbon monoxide nonattainment areas: if any estimate of vehicle miles traveled in the area exceeds forecasted levels.

If we read the CAA to demand that the only acceptable contingency measure are those that are adopted but not implemented, then states face a difficult choice: adopt the controls for immediate implementation and clearly meet the core control measure requirements but fail the contingency measure requirement or adopt the control measures but hold implementation in reserve to meet the contingency measure requirement but potentially fail the core control measure requirements.

However, states do not need to face this difficult choice if we read the CAA to allow adopted and implemented measures to serve as contingency measures, provided that those measures' emission reductions are not needed to demonstrate expeditious attainment and/or RFP. There is nothing in the language of section 172(c)(9) that prohibits this interpretation. This approach to the contingency measure requirement also has the benefit of allowing states to build uncredited cushions into their attainment and RFP demonstrations--which makes actual failures to make progress or attain less likely--while still obtaining the air quality and public health benefits from the implemented measures.

ACLPI cites as applicable EPA guidance, our 1995 proposed approval of the moderate area PM-10 SIP for the Yakima, Washington nonattainment area. This proposal, however, simply affirms our position here. In this case, Washington State used as a contingency measure for the Yakima area, a wood stove buy back program. At the time we proposed to approve it as a contingency measure, the program had been in operation for more than two years and had already replaced 70 wood stoves. We proposed to approve it as a contingency measure because the emission reductions from the program were "100 percent overcontrol," that is, not necessary for attainment. See 60 FR 56129, 56132 (November 7, 1995). We finalized this proposal at 63 FR 5269 (February 2, 1998).

#### General SIP Requirements

**Comment:** ACLPI disagrees that the metropolitan Phoenix serious area plan contains the necessary assurances of adequate personnel, funding and authority to carry out the control measures in the plan because, as discussed above, there are various control measures that only some jurisdictions have committed to implement, citing MAG plan, Table 10-9. ACLPI states that CAA section 110(a)(2)(E) requires that plans provide assurances of adequate personnel, funding and authority to implement control measures.

**Response:** As we have also discussed previously (see page 430), CAA section 110(a)(2)(E) requires a state to provide assurances of adequate personnel, funding and authority only for those control measures that are in its submitted implementation plan. It does not require a state to provide such assurances for control measures that are not in its submitted implementation plan.

Therefore, where a jurisdiction has not committed to implement a measure, CAA section 110(a)(2)(E) does not require them to provide assurances of adequate resources.

***Comments on Other Aspects of the Proposed Action***

***Comment:*** Don't Waste Arizona (DWA) stated that EPA did not address whether the proposed action violates the Executive Order on Environmental Justice.

***Response:*** When we approve a plan under CAA section 110, we include in the analysis whether our approval will result in a loss of protection. Based on our evaluation of the Phoenix serious area plan, we believe that we have properly ensured that the Executive Order on Environmental Justice has been met in this action.

***Comment:*** DWA comments that EPA should not grant Arizona's request to extend the CAA deadline for attaining the annual PM-10 standard contending that the extension will only allow more time for noncompliance with no serious, comprehensive effort to resolve the problem leading to continuing and worsening adverse health impacts especially in low-income and minority communities that are situated in the midst or adjacent to industrial areas and highways with large amounts of diesel and other traffic and large concentration of facilities with air pollution permits.

***Response:*** We have analyzed the metropolitan Phoenix serious area plan in detail and found that it is a comprehensive plan that addresses exceedances of the PM-10 standards throughout the nonattainment area. We have presented this analysis in section 5 of this TSD. We have also worked closely with the State and local agencies to improve compliance with the rules that are at the heart of this plan and believe that these agencies are committed to improving compliance. We note that, in addition to controls in the plan, we have promulgated national engine and fuel standards, both diesel and gasoline, which apply in Arizona and will help reduce emissions from highways.

***Comment:*** DWA comments that the plan is inadequate and should be rejected because it relies too much on the improved performance of MCESD and MCESD cannot achieve this improved performance.

***Response:*** We disagree. While it is true that we have had performance issues with MCESD in the past, the current management team has been actively working with us to address these performance issues and has been successful in doing so.<sup>55</sup> An example of this success is MCESD's monitoring

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<sup>55</sup> We did a full program evaluation of the Maricopa County Air Quality Program in September, 1989 and a follow-up in July 1992. See "Evaluation of the Maricopa County Air Quality Program," U.S. EPA Region 9, September 1989 and "Re-evaluation of the Maricopa

program. We had identified numerous problems with the County's monitoring program and had raised those issues to management at MCESD. MCESD addressed all the monitoring issues by May 1999. Letter, David Howekamp, Director, Region 9 Air Division, to Al Brown, Director, MCESD, May 21, 1999. Consequently, MCESD now has one of the best monitoring programs within Region 9. We presented the MCESD monitoring team with an award in December 1999 for their efforts.

In another situation, we raised our concern with MCESD about its lack of enforcement of its fugitive dust rules. Since that time, MCESD in cooperation with the Maricopa County Attorney's Office has created an efficient fugitive dust enforcement program that allows the County to successfully pursue violators and collect substantial penalty amounts. In addition, MCESD has established programs that educate the regulated community on dust control requirements so that violations can be avoided in the future, which is key to bringing the area into attainment. These educational programs have been very well-attended and very successful in getting the public health message out to the regulated community. See *email*, Maureen Lynch, MCESD to Colleen McKaughan, EPA-Region 9 "RE: Dust course," January 14, 2002. In addition, MCESD has successfully obtained the resources necessary to do the air quality protection job that is expected of them by the community.<sup>56</sup>

We will continue to work with the County on needed improvements to its air quality protection program. It has been our experience that MCESD management and staff have been willing to face performance issues, correct them, and strive for continuous improvement in their Agency and in the area's air quality.

**Comment:** DWA contends that MCESD has no credible enforcement program, describing a number of problems DWA finds with the Department's complaint line.

**Response:** Problems with a complaint line are not proof that an agency lacks a credible enforcement program. The proof of a credible enforcement program is evidence that the agency is doing inspections, taking enforcement actions whenever warranted, and using compliance activities as a tool to improve air quality. MCESD has greatly improved its dust enforcement program over the last two years as evidenced by the number of inspections done, enforcement actions taken, and penalties collected. See response to the comment directly above.

In regards to DWA's concerns with MCESD's complaint line, a complaint line is one

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County Air Quality Program," U.S. EPA Region 9, July 1992.

<sup>56</sup> Maricopa County has made enforceable commitments to make and continue these improvement. See Maricopa County commitments.

method for contacting the agency regarding air quality problems. Public complaints indicate that a citizen feels that there is an air pollution problem, not necessarily that there has been a violation of the law, which is the basis for any enforcement action. If there is a problem, it needs to be properly documented before an enforcement action is taken. In order to issue a notice of violation, the inspector must either observe and document a violation while onsite or request information from the source that can be used to document a violation at a later date. Because of the lack of certainty regarding complaints, we do not consider complaint-based enforcement programs to be adequate means of assuring compliance and encourage agencies to do proactive enforcement on the regulated community.

Our understanding of the MCESD complaint line is that a caller gets a live person during business hours, the complaint information is entered into a database, segregated by industrial sector, and checked every few hours by the inspection managers. Complaints can also be entered online at MCESD's website. The managers send inspectors out in response to complaints within 24 hours for dust complaints and within 2 -3 days for stationary sources. <sup>57</sup>We believe that this level of response is adequate.

**Comment:** DWA writes that a number of facilities pollute at night and cease during the day because they know that there are no nighttime MCESD inspectors and because these facilities are concentrated in ethnic minority and poor communities.

**Response:** We have recently worked with MCESD on cases where evidence was gathered at night and on weekends by the MCESD inspectors. MCESD inspectors are given the discretion by management to check up on sources during the evening or on weekends, whenever they feel that it is warranted. See Footnote 207. MCESD understands the need to be available outside of normal business hours and has taken steps to address this issue.

Some of the MCESD cases that we are aware of involve sources in minority and poor communities. We note again that MCESD cannot always take a successful enforcement action against these sources, because enforcement depends heavily on the evidence and the prevailing regulations, but this is not indicative that MCESD is not present in those communities.

**Comment:** DWA comments that the plan does not address the impact of the smoke and particulates from copper smelters near the Phoenix metro area pointing to EPA's Grand Canyon Visibility Study that blame smelters in Mexico for part of the Canyon's haze and noting that the Phoenix metro area is lower in elevation than these smelters, and the smelters' air emissions

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<sup>57</sup> Personal Communication, Colleen McKaughan, Associate Director, EPA, with Robert Evans, Manager, Air Enforcement Section, and Larry Spivack, Manager, Air Compliance Section, MCESD, December 18, 2001.

eventually cool and sink into the Valley.

**Response:** If significant amounts of smoke and particulates were reaching the Phoenix area, PM-10 samples would include significant sulfate, sulfur being the principal pollutant emitted by copper smelters. Available analyses of PM-10 samples indicate that sulfates are a small fraction of total PM-10. See MAG TSD, pp. III-41.

The plan did implicitly evaluate the effect of copper smelters. Transport of pollutants into the nonattainment area, which can influence air quality within the nonattainment area, is dealt with in a nonattainment area plan by establishing appropriate boundary conditions in the air quality modeling. In reviewing the modeling in the plan, we evaluated the boundary conditions and process used to establish them and found that they were both appropriate and met EPA's modeling guidance. See EPA TSD section "Air Quality Modeling."

**Comment:** One private citizen urged that other sources of pollutants be studied and assessed, such as PM-2.5 and other size particulates..

**Response:** We agree. Nationally, EPA continues to evaluate the health effects of the various size fractions of particulate including PM-2.5 and PM-2.5 to PM-10. Arizona has been monitoring for both PM-10 and PM-2.5 for a number of years and has been assessing the sources of both.

**Comment:** MAG made a number of detailed comments noting errors in the TSD for the annual standard proposal.

**Response:** We have revised the TSD to address MAG's comments.