

September 16, 2014

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Philip McNeely, Phoenix, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Tuesday, September 23, 2014 - 1:30 p.m.
MAG Office, Suite 200 - Saguaro Room
302 North 1st Avenue, Phoenix

A meeting of the MAG Air Quality Technical Advisory Committee has been scheduled for the time and place noted above. Members of the Air Quality Technical Advisory Committee may attend the meeting either in person, by videoconference or by telephone conference call. Those attending by videoconference must notify the MAG site three business days prior to the meeting. If you have any questions regarding the meeting, please contact Chair McNeely or Lindy Bauer at 602-254-6300.

Please park in the garage underneath the building, bring your ticket, and parking will be validated. For those using transit, Valley Metro/Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

In 1996, the Regional Council approved a simple majority quorum for all MAG advisory committees. If the MAG Air Quality Technical Advisory Committee does not meet the quorum requirement, members who arrived at the meeting will be instructed a legal meeting cannot occur and subsequently be dismissed. Your attendance at the meeting is strongly encouraged. If you are unable to attend the meeting, please make arrangements for a proxy from your entity to represent you.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Jason Stephens at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

TENTATIVE AGENDA

COMMITTEE ACTION REQUESTED

1. Call to Order

2. Call to the Audience

An opportunity will be provided to members of the public to address the Air Quality Technical Advisory Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Members of the public will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Air Quality Technical Advisory Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard.

3. Approval of the June 26, 2014 Meeting Minutes

4. Arizona Center for Law in the Public Interest Petition for Review of the EPA Approval of the MAG 2012 Five Percent Plan for PM-10

On August 20, 2014, the Environmental Protection Agency (EPA) notified MAG that the Arizona Center for Law in the Public Interest filed a petition for review of the EPA approval of the MAG 2012 Five Percent Plan for PM-10 in the U.S. Ninth Circuit Court of Appeals. According to the mediation questionnaire, the Center for Law in the Public Interest indicated that the most significant issue is the reliance upon the EPA Exceptional Events Rule to demonstrate attainment of the standard. The Center for Law in the Public Interest contends that the EPA concurrence in excluding the exceptional event exceedances is an abuse of discretion. The Center's opening brief is due on October 17, 2014 and the respondents's

2. For information.

3. Review and approve the June 26, 2014 meeting minutes.

4. For information and discussion.

answering brief is due on November 17, 2014. On August 28, 2014, the Arizona Department of Environmental Quality filed a motion to intervene in the lawsuit on behalf of EPA. Please refer to the enclosed material.

5. EPA Approval of the MAG 2009 Eight-Hour Ozone Redesignation Request and Maintenance Plan

On August 20, 2014, the Environmental Protection Agency issued final approval of the MAG 2009 Eight-Hour Ozone Redesignation Request and Maintenance Plan. EPA has redesignated the Maricopa nonattainment area to attainment status for the 1997 eight-hour ozone standard of 0.08 parts per million. There have been no violations of the standard since 2004. The Maintenance Plan demonstrates that the eight-hour ozone standard will continue to met through 2025. Please refer to the enclosed material.

6. Update on the Ozone Monitoring Data

The Maricopa eight-hour ozone nonattainment area is classified as a Marginal Area for the 2008 ozone standard of 0.075 parts per million. The attainment date for Marginal Areas is December 31, 2015. An update will be provided on the ozone monitoring data.

7. Update on the EPA Review of the Eight-Hour Ozone Standard

In August 2014, the staff of the EPA Office of Air Quality Planning and Standards issued a Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards. The primary ozone standard currently under review is the 0.075 parts per million standard established by EPA in 2008. The Policy Assessment indicates that the staff concludes that it is appropriate in this review to consider a revised primary standard level within the range of 70 to 60 parts per billion (0.070 to 0.060 parts per million). It is anticipated that EPA may propose new

5. For information and discussion.

6. For information and discussion.

7. For information and discussion.

standards in December 2014. An update will be provided.

8. Call for Future Agenda Items

The next meeting of the Committee has been tentatively scheduled for Thursday, October 23, 2014 at 1:30 p.m. The Chair will invite the Committee members to suggest future agenda items.

8. For information and discussion.

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
AIR QUALITY TECHNICAL ADVISORY COMMITTEE MEETING

Thursday, June 26, 2014

MAG Office

Phoenix, Arizona

MEMBERS ATTENDING

- | | |
|---|--|
| Philip McNeely, Phoenix, Chairman | Dan Duffy for Steve Trussell, Arizona Rock Products Association |
| William Mattingly, Peoria, Vice Chair | Ashley Ferguson for Claudia Whitehead, Greater Phoenix Chamber of Commerce |
| Paul Lopez for Daniel Culotta, Avondale | # Amanda McGennis, Associated General Contractors |
| Susan Avans for John Minear, Buckeye | * Spencer Kamps, Homebuilders Association of Central Arizona |
| # Jim Weiss, Chandler | * Mannie Carpenter, Valley Forward |
| # Jamie McCullough, El Mirage | * Kai Umeda, University of Arizona Cooperative Extension |
| Jessica Koberna, Gilbert | Joonwon Joo for Beverly Chenausky, Arizona Department of Transportation |
| Megan Sheldon, Glendale | Diane Arnst, Arizona Department of Environmental Quality |
| * Cato Esquivel, Goodyear | * Environmental Protection Agency |
| # Kazi Haque, Maricopa | Bob Downing for Thomas Ekren, Maricopa County Air Quality Department |
| # Greg Edwards for Scott Bouchie, Mesa | # Scott DiBiase, Pinal County |
| Sam Brown for Tim Conner, Scottsdale | * Michelle Wilson, Arizona Department of Weights and Measures |
| # John McFarlane for Antonio DeLaCruz, Surprise | * Ed Stillings, Federal Highway Administration |
| Oddvar Tveit, Tempe | * Judi Nelson, Arizona State University |
| * Youngtown | Stan Belone, Salt River Pima-Maricopa Indian Community |
| # Ramona Simpson, Queen Creek | |
| # Walter Bouchard, American Lung Association of Arizona | |
| # Wendy Crites for Kristin Watt, Salt River Project | |
| Rebecca Hudson, Southwest Gas Corporation | |
| Ann Carlton, Arizona Public Service Company | |
| # Gina Grey, Western States Petroleum Association | |
| Robert Forrest, Valley Metro/RPTA | |
| * Dave Berry, Arizona Motor Transport Association | |
| * Jeannette Fish, Maricopa County Farm Bureau | |

*Members neither present nor represented by proxy.

#Participated via telephone conference call.

+Participated via video conference call.

OTHERS PRESENT

- | | |
|---|---|
| Lindy Bauer, Maricopa Association of Governments | Feng Liu, Maricopa Association of Governments |
| Matt Poppen, Maricopa Association of Governments | Ron Pope, Maricopa County Air Quality Department |
| Julie Hoffman, Maricopa Association of Governments | Dena Konopka, Maricopa County Air Quality Department |
| Kara Johnson, Maricopa Association of Governments | Beverly Chenausky, Maricopa County Air Quality Department |
| Randy Sedlacek, Maricopa Association of Governments | Joe Gibbs, City of Phoenix |
| Cathy Arthur, Maricopa Association of Governments | Amanda Nash, Maricopa County |
| Taejoo Shin, Maricopa Association of Governments | |
| Patrick Shaw, Maricopa Association of Governments | |
| Dean Giles, Maricopa Association of Governments | |
| Adam Xia, Maricopa Association of Governments | |

1. Call to Order

A meeting of the Maricopa Association of Governments (MAG) Air Quality Technical Advisory Committee (AQTAC) was conducted on June 26, 2014. Philip McNeely, City of Phoenix, Chair, called the meeting to order at approximately 1:35 p.m. Greg Edwards, City of Mesa; Jim Weiss, City of Chandler; Gina Grey, Western States Petroleum Association; Amanda McGennis, Associated General Contractors; Jamie McCullough, City of El Mirage; Walter Bouchard, American Lung Association of Arizona; John McFarlane, City of Surprise; Scott DiBiase, Pinal County; Wendy Crites, Salt River Project; Ramona Simpson, Town of Queen Creek; and Kazi Haque, City of Maricopa, attended the meeting via telephone conference call.

Chair McNeely indicated that copies of the handouts for the meeting are available. He noted for members attending through audio conference, the presentations for the meeting will be posted on the MAG website under Resources for the Committee agenda, whenever possible. If it is not possible to post them before the meeting, they will be posted after the meeting.

2. Call to the Audience

Chair McNeely stated that according to the MAG public comment process, members of the audience who wish to speak are requested to fill out comment cards, which are available on the tables adjacent to the doorways inside the meeting room. Citizens are asked not to exceed a three minute time period for their comments. Public comment is provided at the beginning of the meeting for nonagenda items that fall under the jurisdiction of MAG and nonaction agenda items. Chair McNeely noted that no public comment cards had been received.

3. Approval of the May 22, 2014 Meeting Minutes

The Committee reviewed the minutes from the May 22, 2014 meeting. William Mattingly, City of Peoria, moved and Amanda McGennis, Associated General Contractors, seconded, and the motion to approve the May 22, 2014 meeting minutes, carried unanimously.

4. Draft MAG 2014 State Implementation Plan Revision for the Removal of Stage II Vapor Recovery Controls in the Maricopa Eight-Hour Ozone Nonattainment Area

Matt Poppen, Maricopa Association of Governments, presented the MAG 2014 State Implementation Plan (SIP) Revision for Removal of Stage II Vapor Recovery Controls in the Maricopa Eight-Hour Ozone Nonattainment Area. He stated that on May 16, 2012, the Environmental Protection Agency (EPA) made a determination that Onboard Refueling Vapor Recovery (ORVR) is in widespread use throughout the motor vehicle fleet. States may now evaluate the removal of Stage II controls at gasoline dispensing facilities since ORVR and Stage II vapor recovery are redundant control systems. Mr. Poppen indicated that the SIP revision requests that EPA remove the requirement to install and operate Stage II vapor recovery systems in the Maricopa eight-hour ozone nonattainment area for new gasoline dispensing facilities beginning in 2014 and for existing facilities beginning in October 2016, before a regional disbenefit begins to occur in 2018.

Mr. Poppen provided an overview of Stage II vapor recovery systems and onboard refueling vapor recovery. He explained that Stage II controls are designed to capture gasoline vapors from motor vehicle gas tanks, during vehicle refueling, that are then put into the underground storage tank. This

prevents gasoline vapors from entering the air during vehicle refueling. Beginning in 1998, vehicle manufacturers began the installation of ORVR into vehicles. ORVR consists of an activated carbon canister onboard vehicles that captures vapors during the refueling process that are then burned as fuel during engine start-up. Mr. Poppen mentioned that incompatibility issues exist between ORVR and vacuum assisted Stage II controls. The incompatibility issues occur when both systems are active during refueling, the Stage II controls can pull air into the underground storage tank instead of gasoline vapors. The air in the underground storage tank increases the vapor pressure of the tank which then vents as excess emissions.

Mr. Poppen stated that on August 7, 2012, EPA released Guidance on Removing Stage II Gasoline Vapor Control Programs from State Implementation Plans and Assessing Comparable Measures. The guidance includes equations that are used to estimate the areawide impact of Stage II vapor recovery systems on vehicle refueling volatile organic compound (VOC) emissions. He presented the results of the EPA equations for areawide emission reduction benefits and disbenefits of Stage II controls. The table demonstrates that as the percentage of vehicles equipped with ORVR increases, the benefits of Stage II controls lessen. Beginning in 2018, Stage II controls no longer provide VOC emission benefits, but produce VOC emissions disbenefit due to the incompatibility issues between Stage II and ORVR systems.

Mr. Poppen discussed that Clean Air Act Section 110(l) precludes EPA from approving a SIP revision if it would interfere with attainment of the National Ambient Air Quality Standards, reasonable further progress towards attainment, or any other applicable requirement under the Clean Air Act. EPA recommended following a Stage II removal schedule for new facilities beginning in 2014 and for existing facilities beginning in October 2016, after the 2016 ozone season, as this schedule results in the smallest temporary increase in VOC emissions of the scheduling options considered. The temporary increase in VOC emissions from the scheduled removal of Stage II are too small to interfere with attainment or progress towards attainment. Mr. Poppen displayed a table with the temporary increase in VOC emissions from both new and existing facilities. He stated that all facilities are scheduled to have Stage II controls removed by September 30, 2018.

Mr. Poppen stated that an analysis of mobile source VOC emissions found that when Stage II controls are assumed to be completely removed beginning in 2014, mobile source VOC emissions still exhibit a downward trend in future years. This conservative analysis provides a second demonstration that removal of Stage II controls in the Maricopa eight-hour ozone nonattainment area will not interfere with attainment, or progress towards attainment, as required by Section 110(l) of the Clean Air Act. Mr. Poppen reported the results of the mobile source VOC emission trends with and without Stage II controls. The table shows that nonroad and onroad mobile source VOC emissions continue to decline each year even after assuming Stage II controls are completely removed beginning in 2014. In addition, mobile source VOC emissions are less without Stage II controls beginning in 2018 when the Stage II emissions disbenefit begins. Mr. Poppen presented a figure that displayed the decline of mobile source VOC emissions when Stage II controls are removed in 2014. He indicated that the figure also displayed that the mobile source VOC emissions are less without Stage II controls beginning in 2018.

Mr. Poppen summarized that Stage II controls no longer provide areawide VOC emission reductions benefits in the Maricopa eight-hour ozone nonattainment area beginning in 2018. He stated that the scheduled removal of Stage II controls beginning in 2014 for new gasoline dispensing facilities and October 2016 for existing facilities results in the smallest temporary increase in VOC emissions of the

scheduling options considered. The temporary increase in emissions does not alter the downward trend in mobile source VOC emissions and is too small to interfere with attainment of the ozone standard, or reasonable progress towards attainment, as required by Section 11(l) of the Clean Air Act.

Mr. Poppen presented the schedule for the MAG 2014 SIP Revision for Removal of Stage II Vapor Recovery Controls in the Maricopa Eight-Hour Ozone Nonattainment Area. He noted that on May 2, 2014 the draft SIP revision became available for public review. The MAG 2014 SIP Revision for Removal of Stage II Vapor Recovery Controls public hearing was held on June 3, 2014. Mr. Poppen indicated that the MAG Air Quality Technical Advisory Committee may make a recommendation to the MAG Management Committee on June 26, 2014. The MAG Management Committee may make a recommendation to the MAG Regional Council on August 6, 2014. On August 27, 2014 the MAG Regional Council may adopt the MAG 2014 State Implementation Plan Revision for Removal of Stage II Vapor Recovery Controls in the Maricopa Eight-Hour Ozone Nonattainment Area. Mr. Poppen indicated that MAG would then submit the SIP revision to the Arizona Department of Environmental Quality (ADEQ) and EPA on August 29, 2014.

Mr. Poppen noted that the official transcript of the MAG 2014 SIP Revision for Removal of Stage II Vapor Recovery Controls in the Maricopa Eight-Hour Ozone Nonattainment Area public hearing, held on June 3, 2014, has been provided to the Committee. He stated that no verbal comments were received at the public hearing. Mr. Poppen indicated that no written comments were submitted during the public comment period.

William Mattingly, City of Peoria, inquired about the rules in place for the SIP revision process. Mr. Poppen responded that the SIP revision is in response to Section 110(l) in the Clean Air Act. Stage II vapor recovery systems are control measures in prior ozone plans and Section 110(l) demonstration is required in order to remove Stage II controls. Ms. Bauer noted that Section 110(l) of the Clean Air Act indicates that the EPA administrator will not approve anything that interferes with attainment or maintenance. She stated that we are required to prove that removing the Stage II vapor recovery systems, and the timing of the removal, will not interfere with attainment or maintenance of the standard. It is a legal, Clean Air Act requirement.

Chair McNeely called for a motion to recommend adoption of the MAG 2014 State Implementation Plan Revision for Removal of Stage II Vapor Recovery Controls in the Maricopa Eight-Hour Ozone Nonattainment Area. Mr. Mattingly, moved and Oddvar Tveit, City of Tempe seconded, and the motion to recommend adoption of the MAG 2014 State Implementation Plan Revision for Removal of Stage II Vapor Recovery Controls in the Maricopa Eight-Hour Ozone Nonattainment Area, carried unanimously.

5. Update on the MAG 2012 Five Percent Plan for PM-10 and Exceptional Events

Lindy Bauer, Maricopa Association of Governments, provided an update on the MAG 2012 Five Percent Plan for PM-10 and exceptional events. She noted that the plan contains a wide variety of control measures on a variety of dust sources, including: trackout; open burning; unpaved shoulders; unpaved roads; vacant lots; earthmoving activities; all-terrain vehicles; weed abatement; leaf blowers; nonmetallic mineral processing; as well as, PM-10 Certified Street Sweepers. Ms. Bauer stated that on May 30, 2014, EPA signed a final notice to fully approve the MAG 2012 Five Percent Plan for PM-10. The following items are included in the approval notice: 2008 baseline emissions inventory and

the 2007, 2009, 2010, 2011, and 2012 projected emissions inventories; modeled attainment demonstration that showed the standard would be attained by December 31, 2012; five percent reduction in emissions demonstration; reasonable further progress and quantitative milestone demonstrations; contingency measures; motor vehicle emissions budget; and a determination that the Maricopa County Nonattainment Area has met the PM-10 standard based upon three years of clean data for 2010-2012. Ms. Bauer noted that this is the first time the region has met the PM-10 standard. She indicated that the approval was published in the Federal Register on June 10, 2014 and the effective date of final action is July 10, 2014. The Federal Register notice was included in Committee materials.

Ms. Bauer discussed aggressive dust prevention activities that have kept the region in compliance. The City of Phoenix established a Dust Reduction Task Force with both short term and long term goals. MAG created a PM-10 prevention video that was used for both education and training purposes. Ms. Bauer stated that Maricopa County provides near real time monitor data to prevent exceedances of the PM-10 standard. She added that the MAG Regional Council allocated \$90,000 in funding to Maricopa County for the near real time monitor data. The Rapid Response Program was established which consists of a network to prevent PM-10 exceedances regionwide. Maricopa County coordinates with MAG member agencies to avoid duplication of efforts. Ms. Bauer indicated that MAG member agencies, Maricopa County, and the State implemented customized Rapid Response Action Plans based on a MAG template and tool kit. She noted that MAG conducts PM-10 Prevention Workshops with local governments, Maricopa County, and ADEQ. Additionally, ADEQ sends out the Maricopa County Dust Control Action Forecast five days in advance. Ms. Bauer stated that agriculture, business, and industry have been working together to keep the dust down.

Ms. Bauer presented next steps. She stated that the aggressive prevention efforts must continue and thanked the MAG member agencies for their efforts. Clean data at the monitors and throughout the region must be maintained. Ms. Bauer indicated that MAG will begin to prepare the MAG Redesignation Request and Maintenance Plan for PM-10. She mentioned that the EPA Exceptional Events Rule (EER) and process still needs to be streamlined. EPA was scheduled to propose rule revisions in April 2014, however due to resource constraints, EPA is a year off schedule. Ms. Bauer displayed a photo of the July 5, 2011 haboob. She noted that the exceptional event documentation is very resource intensive in that 1,700 pages were produced for the exceptional event documentation. The exceptional event documentation cost ADEQ, Maricopa County, and MAG approximately \$675,000. Ms. Bauer indicated that six exceptional events occurred in 2013. She noted that exceptional event documentation has been submitted to EPA for concurrence on the six exceptional event days. Ms. Bauer mentioned that an exceptional event occurred on May 11, 2014 due to a regional dust storm. MAG staff has prepared the exceptional event documentation and submitted it to ADEQ for the regional dust storm on May 11, 2014.

Ms. Bauer stated that on June 25, 2014 U.S. Senator Jeff Flake introduced a revised version of the Commonsense Legislative Exceptional Events Reform (CLEER) Act, which was provided to the Committee. Many recommendations to streamline the Exceptional Events Rule from ADEQ, Maricopa County, the private sector, and MAG were included in the CLEER Act. The CLEER Act also includes some new provisions; one provision states that if EPA disapproves an exceptional event, the disapproval could only be appealed by the State. Another provision indicates that EPA would have 90 days after submission of the EER documentation to take action. The provision goes on to state that if EPA has questions on the submission, another 90 days is added before action is required. Ms. Bauer

stated that if EPA does not take action or request information in the 90 day period, the documentation is deemed to be approved. She indicated that this language parallels that of a completeness finding by EPA under the Clean Air Act.

Ms. Bauer discussed a June 2, 2014 press conference held by the MAG Regional Council on the EPA approval of the MAG 2012 Five Percent Plan for PM-10. Members of the MAG Regional Council, ADEQ, Maricopa County Air Quality Department, and the Arizona Department of Transportation joined for the press conference. Ms. Bauer thanked the Committee for all of their work and the work done by the public and private sectors.

Chair McNeely commented that the approval of the MAG 2012 Five Percent Plan for PM-10 is a major milestone. He thanked MAG for their work.

Oddvar Tveit, City of Tempe, commented that the region is not in attainment of the PM-10 standard despite the approval of the MAG 2012 Five Percent Plan for PM-10. He indicated that public relations should be clear that the region is still classified as nonattainment. Mr. Tveit mentioned this so that there remains pressure for the public to continue to contain dust emissions. Ms. Bauer stated that EPA has determined that the region has met the standard based on 2010-2012 data, the region will now request a redesignation to attainment status. She indicated that this process will include a maintenance plan and a demonstration to EPA that all requirements for a nonattainment area have been met. Ms. Bauer added that clean data at the monitors and throughout the region must be maintained going forward or we risk nonattainment status again. Ms. Bauer thanked Mr. Tveit for his comment.

6. Maricopa County PM-2.5 Speciation Study

Ron Pope, Maricopa County Air Quality Department, provided a presentation on the Maricopa County PM-2.5 Speciation Study. He discussed that for many years, PM-2.5 concentrations have been an issue around Christmas Day and New Year's Day. These days typically exceed the 24-hour PM-2.5 standard of 35 $\mu\text{g}/\text{m}^3$. Mr. Pope presented a graph of the West Phoenix monitor data for both 2013 Christmas Eve/Christmas Day and 2013/2014 New Year's Eve/New Year's Day. He noted that the PM-2.5 standard was exceeded on both days. The New Year's Day PM-2.5 five-minute concentrations, of over 1,300 $\mu\text{g}/\text{m}^3$, was one of the highest readings ever collected on the Maricopa County network. Mr. Pope commented that the pattern for Christmas day is consistent throughout the years in that PM-2.5 concentrations rise at approximately 6:00 p.m., levels around midnight for a few hours, and eventually decrease to below standard levels by morning. He indicated that the New Year's pattern is similar, except for a large spike generally occurring after midnight. The proposed hypothesis for the spike on New Year's Day is fireworks.

Mr. Pope stated that maintaining attainment of the PM-2.5 standard is crucial for public health. He noted that generally the monitors exceed the PM-2.5 standard on both Christmas Day and New Year's Day, making the holiday season increasingly problematic. The region has not violated the standard which is based on a three year average, however the trends for the holiday exceedances are increasing.

Mr. Pope discussed the speciation study questions. He explained that speciation refers to chemical species that are collected. Maricopa County established a speciation study to determine the source contributions of PM-2.5 during the holiday season. Another speciation study question is: how much did fireworks contribute to the total PM-2.5 concentrations on New Year's Day. To begin the study, Maricopa County Air Quality Department obtained Super-Speciation Air Sampler System (SASS)

monitors to be operated at the Tempe monitor and the Durango Complex monitor. The Tempe monitor site is in a residential area with a park nearby. The Durango Complex site is an industrial area. Mr. Pope stated that the study period was from December 3, 2013 to January 8, 2014 in which the monitors operated on a one and three day schedule with special collections for Christmas Eve, Christmas Day, New Year's Eve, and New Year's Day. Mr. Pope explained that the Super-SASS collect samples through a series of filters that are then sent to a laboratory for analysis. The laboratory tests for 51 different chemical species and is able to indicate the mass of each species in the samples.

Mr. Pope provided a comparison of monitoring methods. He indicated that the continuous air quality monitors normally at the site were running at the same time as the speciation monitor. The values of the speciation and the continuous monitor are very similar, however in some cases the continuous monitor reported slightly higher values.

Mr. Pope presented the modeling plan for the data collected. After the data from the samples were available, Maricopa County used the EPA Positive Matrix Factorization (PMF) Receptor Model to determine the PM-2.5 source contributions. The PMF model is a multi-variant statistical model that groups the species into factors or the fingerprints of a source based on the variations between the chemical species. Mr. Pope noted that the model does not identify source contributions, however through analysis of the quantity and the contribution of each species, the source contributions are determined. He presented graphs of the PMF models results that demonstrate the factors along with the monitoring data for New Year's Day at the West Phoenix monitor. Through analysis of the chemical species, firework markers were indicated by the trace elements and metals that were present. Mr. Pope presented a graph that contained the PM-2.5 data for both Christmas Day and New Year's Day that established wood-smoke and the biomass burning factor. He stated that models are continuously modified to reduce statistical error in the model to isolate factors with the best error rate.

Mr. Pope provided the Durango Complex results. He indicated that the best model had five factors. The error was low in that the actual PM-2.5 measured on New Year's Day was $50.1 \mu\text{g}/\text{m}^3$ and the model predicted $49.0 \mu\text{g}/\text{m}^3$. The fireworks factor was almost exclusive to New Year's Day in that this factor contributed 32 percent or $15.8 \mu\text{g}/\text{m}^3$ to the daily PM-2.5 total. Mr. Pope displayed a graph of the five chemical species contributions to the Durango Complex source profiles. He stated that the factors are determined by deduction based on the species contributions present, as well as, the timeline of when the species are present. The fireworks factor was only present on New Year's Day in that high levels of elements found in fireworks were present. Mr. Pope displayed a graph of source contributions by day at the Durango Complex monitor. New Year's Day reported approximately 32 percent as the fireworks factor and 62 percent as the biomass combustion factor, wood smoke. Biomass combustion made up a majority of the source contributions for Christmas Day.

Mr. Pope presented the Tempe monitor results. He stated that Tempe results did not include a sample for Christmas Day due to a malfunction at the monitor. Mr. Pope indicated that the best model for the Tempe monitor had four factors. The actual PM-2.5 measured on New Year's Day was $46.6 \mu\text{g}/\text{m}^3$ and the model predicted $43.6 \mu\text{g}/\text{m}^3$. There was one factor that was exclusive to New Year's Day which contributed $33.8 \mu\text{g}/\text{m}^3$ or 78 percent to the daily PM-2.5 total. Mr. Pope commented that this value is likely high due to the missed sample on Christmas Day. He displayed a graph of the four chemical species contributions to the Tempe monitor source profiles. The fireworks factor is present, however Mr. Pope noted that biomass combustion is included in the fireworks factor which may be due to the missing Christmas Day sample. He displayed a graph of source contributions by day at the Tempe monitor. The fireworks factor made up approximately 78 percent of the total contributions for New

Year's Day. Mr. Pope commented that if the Christmas data was available, the fireworks factor would have likely comprised approximately 50-60 percent of the total, with the rest of the percentage going in to the biomass combustion factor.

Mr. Pope discussed the comparison between commercial and consumer fireworks. Maricopa County Air Quality Department chose the Tempe monitor to study the effects of the Tempe New Year's Block Party which is usually the largest commercial fireworks display. The speciation study set out to answer if the commercial fireworks display affected the Tempe monitor readings. Mr. Pope stated that it is unlikely that the commercial fireworks had a substantial effect and that it was more likely that the effects originated from consumer fireworks. He indicated that source contributions impacting the monitor were found using the direction of pollution from 8:00 p.m. to 4:00 a.m. When the wind direction was from the northwest, the sample displays less than $34 \mu\text{g}/\text{m}^3$ of PM-2.5. However, the wind originated from the southeast 80 percent of the time. PM-2.5 was reported in an excess of $80 \mu\text{g}/\text{m}^3$ when the wind was from the southeast. Mr. Pope commented that it appears that the consumer fireworks in the residential areas near the monitor impacted the monitor more than commercial fireworks. He added that commercial fireworks displays are typically higher than the temperature inversion layer. Therefore, the smoke from commercial displays would not impact the monitor like ground-level consumer fireworks below the inversion layer.

Mr. Pope summarized the speciation study conclusions. Modeled data concludes that fireworks caused exceedances at the Durango and Tempe monitors on New Year's Day. Mr. Pope displayed a table that shows that without the source contribution of fireworks, the modeled daily average would not have exceeded the standard. Based on analysis, consumer fireworks are most likely the source contributions of the exceedances.

Mr. Pope discussed next steps for the speciation study. He stated that Maricopa County Air Quality Department would like to conduct additional sampling next season. The speciation monitoring would take place from November 2014 to February 2015 with a total of three total monitoring sites. Mr. Pope indicated that Maricopa County would like to coordinate with ADEQ since they have a speciation monitor at the Phoenix Supersite that could sample on certain days throughout the holiday season. The ADEQ monitor provides the advantage of long term data that can show trends over long periods of time. Mr. Pope stated that the locations of the monitors would be reevaluated for the potential of more source contributions, such as traffic.

Jessica Koberna, Town of Gilbert, inquired if firework displays put on by religious establishments and other organizations would be considered commercial or consumer fireworks. Mr. Pope responded that generally those would be commercial firework displays. Ms. Koberna asked if Maricopa County Air Quality Department would consider a monitoring location with a higher concentration of firework displays. Mr. Pope replied that the 2013-2014 speciation study looked at the Tempe Block Party firework display; he added that commercial fireworks displays are above the inversion layer which lessens the impact on monitors.

Rebecca Hudson, Southwest Gas Corporation, asked if the solution is to ban fireworks. Mr. Pope replied that he is just presenting the data findings. Chair McNeely indicated that enforcement with personal fireworks is an issue. Ms. Koberna commented that personal fireworks are allowed in Gilbert, but only on certain days and times.

Paul Lopez, City of Avondale, mentioned that perhaps the upcoming speciation study could analyze at what elevation the combustion of fireworks impacts the concentrations of PM-2.5. He commented that perhaps in the future, the monitors can be placed at various locations around an event like the Tempe New Year's Block Party to determine if commercial fireworks impact the monitors. Mr. Lopez stated that he agreed that higher elevation for firework combustion would impact the monitors less. Mr. Pope replied that during winter months the inversion layer is between 10-20 meters. He explained that if the combustion happens above the inversion layer, which acts as a blanket, the emissions will not descend and mix lower. Conversely, combustion of fireworks at ground level will not ascend and mix with higher air. Mr. Lopez clarified that residential fireworks have a larger impact on air quality than commercial firework displays.

Ann Carlton, Arizona Public Service Company, asked about data before fireworks were legal. Mr. Pope replied that data has been analyzed before fireworks were legal. He noted that wood smoke has always been a factor. However, no speciation data was available during that time which breaks down the source contributions. Mr. Pope indicated that another issue with old data, is that it was filter data that was collected every third day in which there may or not be data collected on Christmas and New Year's Day. He added that comparison between recent continuous monitoring data with every third day data collection is very challenging.

Mr. Lopez inquired how the region compares with other regions. He commented that there are a few event days of the year where compliance will be very difficult. Mr. Pope responded that an epidemiological study of the effects of PM-2.5 on people with asthma reports a 20 percent increase of hospitalizations on Christmas Day and New Year's Day. The study's focus was simply on high PM-2.5 concentration days, however Christmas Day and New Year's Day generally report elevated PM-2.5 concentrations. He commented that the health impact needs to be considered. Mr. Pope mentioned that the PM-2.5 standard, which is based upon a 98 percentile, has not been violated, however Christmas and New Year's Day are nearing the standard. Mr. Lopez noted that with regard to public education it is important to note the health ramifications of wood burning and fireworks that are causing an increase of hospitalizations. Mr. Pope added that the high concentrations of PM-2.5 affect vulnerable populations.

Ms. Bauer indicated that MAG hosted the Desert Peaks Awards event on June 25, 2014. She stated that the Maricopa County Air Quality Department was awarded a Desert Peaks award for their No Burn Campaign that has a slogan of "Don't Let Our Air Go Up in Smoke". Maricopa County spoke to the MAG Air Quality Technical Advisory Committee, the MAG Management Committee, the MAG Regional Council, and the private sector as part of the Campaign's public education and outreach. Ms. Bauer commented that last year was the first year for the Campaign and that perhaps the upcoming Campaign can include additional public education on the holidays. She stated that the Maricopa County Air Quality Department will be continuing the Campaign this year. Chair McNeely inquired if fireworks were mentioned in the Campaign last year. Ms. Bauer responded that the Campaign primarily focused on wood smoke, since the data was not available until recently on fireworks. Mr. Pope replied that the Campaign was waiting on the data from the speciation study before it addressed fireworks.

7. MAG Eight-Hour Ozone Modeling Study

Ms. Bauer provided an overview of the MAG Eight-Hour Ozone Modeling Study. She indicated that EPA has approved the MAG 2007 Eight-Hour Ozone Plan for the Maricopa Nonattainment Area for

the 1997 ozone standard, as well as, proposed approval of the MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan. The region now needs three years of clean data for the 2008 ozone standard of 0.075 parts per million. Ms. Bauer stated that the data is being updated and the models evaluated in preparation of a potential revision to the ozone standard. She stated that the following items are also being reviewed: regional sensitivity to nitrogen oxide reductions, VOC reductions, and assumptions. Ms. Bauer indicated that in the past, reductions in nitrogen oxides have created an increase in ozone concentrations in some areas. She noted that the assumptions and models need to be updated due to changes in: vehicle exhaust, business and industry emissions, biogenics, and transport. Ms. Bauer mentioned that MAG consultants are investigating transport emissions from other regions, as well.

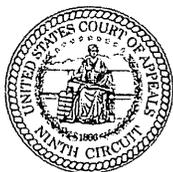
Ms. Bauer discussed that clean data is required for years 2013, 2014, and 2015 due to a December 31, 2015 attainment date. MAG is closely tracking the ozone monitoring data. Ms. Bauer indicated that the ozone concentrations were lower in 2013 as compared to the high ozone concentrations experienced in years 2011 and 2012. These high concentrations of ozone in 2011 and 2012 occurred around various parts of the country and seem to be attributed to meteorology. Ms. Bauer stated the MAG staff wanted to make the Committee aware of these activities.

Diane Arnst, Arizona Department of Environmental Quality, commented that the Western States Air Resources Council (WESTAR) has submitted comments to EPA on the 2011 modeling platform for ozone. One of the comments provided by WESTAR was for EPA to update the Mexico Emissions Inventory which is from 1999. Ms. Arnst indicated that EPA was planning to utilize the 1999 inventory to project emissions to the year 2018. Another comment made by WESTAR was to update the Canada Emissions Inventory. Additionally, a comment requested that EPA utilize Western Regional Air Partnership (WRAP) fire information which is designed to take into account western vegetation and western vegetation emission contributions. Ms. Arnst stated that the comment period ends June 30, 2014. She stated that WESTAR submitted seven different comments in which one requests that the 2018 modeling projections be based on version two of the 2011 modeling platform.

Chair McNeely asked if Senator Flake's CLEER Act applies to forest fires, ozone transportation, and other conditions. Ms. Bauer responded that Senator Flake has proposed another act called the Ozone Regulatory Delay and Extension of Assessment Length (ORDEAL) Act.

8. Call for Future Agenda Items

Chair McNeely requested suggestions for future agenda items. He requested an update on the ORDEAL Act. Chair McNeely indicated that the next meeting of the Committee has been scheduled for Thursday, August 28, 2014 at 1:30 p.m. With no further comments, the meeting was adjourned at approximately 2:35 p.m.



Office of the Clerk
United States Court of Appeals for the Ninth Circuit
Post Office Box 193939
San Francisco, California 94119-3939
415-355-8000

Molly C. Dwyer
Clerk of Court

July 29, 2014

No.: 14-72327
Short Title: Sandra Bahr, et al v. USEPA, et al

Dear Petitioners/Counsel

Your Petition for Review has been received in the Clerk's office of the United States Court of Appeals for the Ninth Circuit. The U.S. Court of Appeals docket number shown above has been assigned to this case. You must indicate this Court of Appeals docket number whenever you communicate with this court regarding this case.

The due dates for filing the parties' briefs and otherwise perfecting the petition have been set by the enclosed "Time Schedule Order," pursuant to applicable FRAP rules. These dates can be extended only by court order. Failure of the petitioner to comply with the time schedule order will result in automatic dismissal of the petition. 9th Cir. R. 42-1.

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

FILED
JUL 29 2014
MOLLY C. DWYER, CLERK
U.S. COURT OF APPEALS

SANDRA L. BAHR; DAVID
MATUSOW,

Petitioners,

v.

U.S. ENVIRONMENTAL
PROTECTION AGENCY; GINA
MCCARTHY, Administrator, United
States Environmental Protection Agency;
JARED BLUMENFELD, Regional
Administrator, EPA Region IX,

Respondents.

No. 14-72327

Environmental Protection Agency

TIME SCHEDULE ORDER

The parties shall meet the following time schedule.

- | | |
|--------------------------------|---|
| Tue., August 5, 2014 | Mediation Questionnaire due. If your registration for Appellate ECF is confirmed after this date, the Mediation Questionnaire is due within one day of receiving the email from PACER confirming your registration. |
| Fri., October 17, 2014 | Petitioners' opening brief and excerpts of record shall be served and filed pursuant to FRAP 32 and 9th Cir. R. 32-1. |
| Mon., November 17, 2014 | Respondents' answering brief and excerpts of record shall be served and filed pursuant to FRAP 32 and 9th Cir. R. 32-1. |

The optional petitioners' reply brief shall be filed and served within fourteen days of service of the respondents' brief, pursuant to FRAP 32 and 9th Cir. R. 32-1.

Failure of the petitioners to comply with the Time Schedule Order will result in automatic dismissal of the appeal. See 9th Cir. R. 42-1.

FOR THE COURT:
Molly C. Dwyer
Clerk of Court

Holly Crosby
Deputy Clerk

**IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

SANDRA L. BAHR, and DAVID
MATUSOW,

Petitioners,

v.

GINA McCARTHY, Administrator
United States Environmental Protection
Agency; JARED BLUMENFELD,
Regional Administrator, EPA Region IX;
and UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY,

Respondents.

Case No.: _____

PETITION FOR REVIEW

Sandra L. Bahr and David Matusow hereby petition the Court for review of the final action of the above-named respondents, published at 79 Fed. Reg. 33107-33116 (June 10, 2014) entitled “Approval and Promulgation of Implementation Plans—Maricopa County PM–10 Nonattainment Area; Five Percent Plan for Attainment of the 24-Hour PM–10 Standard.”

Dated this 29th day of July, 2014.

s/Joy E. Herr-Cardillo
Joy E. Herr-Cardillo (Arizona Bar #009718)
Arizona Center for Law in the Public Interest
2205 E. Speedway.
Tucson, Arizona 85719
(520)529-1798
Counsel for Petitioners

**IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

SANDRA L. BAHR, and DAVID
MATUSOW,

Petitioners,

v.

GINA McCARTHY, Administrator
United States Environmental Protection
Agency; JARED BLUMENFELD,
Regional Administrator, EPA Region IX;
and UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY,

Respondents.

Case No.: _____

**CERTIFICATE OF
SERVICE OF PETITION
FOR REVIEW**

As counsel for Petitioners, I hereby certify that copies of the above-
captioned petition for review were mailed via first class mail, postage prepaid, this
29th day of July 2014 to the following:

Gina McCarthy
Administrator
Environmental Protection Agency
Office of the Administrator 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Jared Blumenfeld
Regional Administrator
EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

Kara Christenson
Senior Counsel
U.S. EPA Region 9
75 Hawthorne Street, 16th Floor
San Francisco, CA 94105

Henry R. Darwin
Director
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007.

s/Joy E. Herr-Cardillo
Joy E. Herr-Cardillo

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

Circuit Mediation Office
Phone (415) 355-7900 Fax (415) 355-8566
http://www.ca9.uscourts.gov/mediation

MEDIATION QUESTIONNAIRE

The purpose of this questionnaire is to help the court's mediators provide the best possible mediation service in this case; it serves no other function. Responses to this questionnaire are not confidential. Appellants/Petitioners must electronically file this document within 7 days of the docketing of the case. 9th Cir. R. 3-4 and 15-2. Appellees/Respondents may file the questionnaire, but are not required to do so.

9th Circuit Case Number(s): 14-72327
District Court/Agency Case Number(s): EPA-R09-OAR-2013-0762; FRL-9912-01- Region 9
District Court/Agency Location: EPA Region 9, San Francisco, CA
Case Name: Bahr et al v. McCarthy et al
If District Court, docket entry number(s) of order(s) appealed from: n/a
Name of party/parties submitting this form: Sandra Bahr and David Matusow, Petitioners

Please briefly describe the dispute that gave rise to this lawsuit.

This is a Petition for Review challenging EPA's approval of a revision to the Arizona State Implementation Plan under the Clean Air Act. Because the Phoenix metropolitan nonattainment area failed to attain the National Ambient Air Quality Standard (NAAQS) for PM-10 by December 31, 2006, pursuant to section 189(d) of the CAA the state was required to submit "plan revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent inventory prepared for such area." Arizona initially submitted a 5% plan in 2007, but withdrew it in January 2011 when EPA proposed disapproving it. The state then submitted a substitute plan in May 2012, which EPA has now approved.

Briefly describe the result below and the main issues on appeal.

Although Petitioners have raised several issues with the Plan, the most significant issue is the state's reliance upon the exceptional events rule to demonstrate "attainment." According to the monitors, the area continues to violate the NAAQS, particularly during the monsoon season. Consequently, the state has sought to have those violations excluded as "exceptional events." An exceptional event is defined as "an event that affects air quality; is not reasonably controllable or preventable; is an event caused by human activity that is unlikely to recur at a particular location or a natural event." In the case of the 5% plan, the state can only demonstrate "attainment" if 127 exceedances that occurred over 25 days are excluded from the data as "exceptional events." If these exceedances were not excluded, 14 of the 16 monitoring sites that reported exceedances would be violating the standard by a significant measure. We believe EPA's concurrence in excluding these data is an abuse of discretion.

(Please continue to next page)

Describe any proceedings remaining below or any related proceedings in other tribunals.

There were no proceedings below. There was a public comment period during which Petitioners submitted extensive comments.

Provide any other thoughts you would like to bring to the attention of the mediator.

Petitioners in this case were also plaintiffs in two district court actions brought to compel EPA to take action on the 5% plan as required under the CAA. Under the Act, EPA had a nondiscretionary duty to act on the plan by June 2009, and then when the state withdrew and submitted a substitute plan, on February 14, 2013. In both instances, when EPA failed to act by the nondiscretionary deadline, petitioners sued in federal district court for the district of Arizona. Both lawsuits resulted in negotiated consent judgments with agreed upon dates for EPA to act. In both cases, the negotiated deadlines gave EPA significantly more time to take action than is required under the Act.

Any party may provide additional information *in confidence* directly to the Circuit Mediation Office at ca09_mediation@ca9.uscourts.gov. Please provide the case name and Ninth Circuit case number in your message. Additional information might include interest in including this case in the mediation program, the case's settlement history, issues beyond the litigation that the parties might address in a settlement context, or future events that might affect the parties' willingness or ability to mediate the case.

CERTIFICATION OF COUNSEL

I certify that:

a current service list with telephone and fax numbers and email addresses is attached (see 9th Circuit Rule 3-2).

I understand that failure to provide the Court with a completed form and service list may result in sanctions, including dismissal of the appeal.

Signature

s/Joy E. Herr-Cardillo

("s/" plus attorney name may be used in lieu of a manual signature on electronically-filed documents.)

Counsel for

Petitioners Sandra Bahr and David Matusow

Note: Use of the Appellate ECF system is mandatory for all attorneys filing in this Court, unless they are granted an exemption from using the system. **File this document electronically** in Appellate ECF by choosing Forms/Notices/Disclosure > File a Mediation Questionnaire.

Case No. 14-72327

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

SANDRA L. BAHR, and DAVID
MATUSOW,

Petitioners,

v.

GINA McCARTHY, Administrator,
United States Environmental Protection
Agency; JARED BLUMENFIELD,
Regional Administrator, EPA Region IX;
and UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY,

Respondents,

STATE OF ARIZONA ex rel. Henry R.
Darwin, Director, Arizona Department of
Environmental Quality,

Proposed Intervenor-Respondent.

On Petition for Review of final
action, published at 79 Fed. Reg.
33107-33116

**STATE OF ARIZONA'S MOTON
FOR LEAVE TO INTERVENE ON
BEHALF OF RESPONDENT**

Tom Horne
Arizona Attorney General
Monique Coady
Assistant Attorney General
1275 W Washington
Phoenix, AZ 85007
602-542-8543
Attorneys for Proposed Intervenor

I. INTRODUCTION

Pursuant to Rule 15(d), Federal Rules of Appellate Procedure, the State of Arizona ex rel. Henry R. Darwin, Director, on behalf of the Arizona Department of Environmental Quality (“ADEQ”), respectfully requests that this Court enter an order granting it leave to intervene as a Respondent in the above-entitled action.

Petitioners Sandra L. Bahr and David Matusow filed a Petition for Review on July 29, 2014, challenging a final rule issued by the United States Environmental Protection Agency (“EPA”) approving a State Implementation Plan revision that Arizona submitted to meet the Clean Air Act (“CAA”) requirements applicable to the Maricopa County PM-10 Nonattainment Area. *See* 79 Fed. Reg. 33107-33116 (June 10, 2014) (the “Final Rule”).

Arizona is subject to the Final Rule and has a direct and substantial interest in the outcome of this matter. Intervention is appropriate and necessary to adequately protect Arizona’s interests.

II. BACKGROUND

A. The Respective Roles of EPA and the States

Congress assigned responsibility to EPA for identifying air pollutants and establishing National Ambient Air Quality Standards (“NAAQS”). CAA, 42 U.S.C. §§ 7408-7409. The EPA has established NAAQS for six criteria pollutants,

one of which is PM-10.¹ The states are assigned “the primary responsibility for assuring air quality within [its] entire geographic area.” CAA, 42 U.S.C. § 7401(a)(3). To implement the NAAQS, the CAA requires that states adopt and administer State Implementation Plans (“SIPs”) that meet certain statutory criteria. CAA, 42 U.S.C § 7410. The states have “wide discretion in formulating [their] plan[s].” *Union Elec. Co. v. EPA*, 427 U.S. 246, 250 (1976). “[S]o long as the ultimate effect of a State's choice of emission limitations is compliance with the national standards for ambient air, the State is at liberty to adopt whatever mix of emission limitations it deems best suited to its particular situation.” *Train v. Natural Res. Def. Council, Inc.*, 421 U.S. 60, 79 (1975). If a SIP meets the applicable requirements, EPA is required to approve the SIP in its entirety. CAA, 42 U.S.C. § 7410(k)(3). Alternately, EPA may approve a SIP in part and disapprove a SIP in part if only a portion of the SIP meets the applicable requirements. *Id.*

B. Maricopa County PM-10 Nonattainment Area

Pursuant to state statute, the Maricopa Association of Governments (“MAG”) is the lead air quality planning organization for the Maricopa County PM-10 Nonattainment Area, a portion of which is located in Pinal County.

¹ PM-10 means particulate matter 10 micrometers or smaller in diameter. 40 CFR § 50.6(c).

Arizona Revised Statutes § 49-406. The Maricopa County Nonattainment Area has been classified as a serious PM-10 nonattainment area since June 10, 1996.

On July 9, 1999, Arizona submitted to EPA the MAG 1999 Serious Area Particulate Plan for PM-10 with Best Available Control Measures to control PM-10 emissions. Arizona submitted a revised PM-10 SIP in February 2000, which added the Most Stringent Measures in the nation to control PM-10 emissions and included an extension request for attainment. The EPA approved the Serious Area Plan and granted a five-year extension of the attainment date from December 31, 2001 to December 31, 2006. Both decisions were published in the Federal Register on July 25, 2002. *See* 67 Fed. Reg. 48718.

The Maricopa County Nonattainment Area failed to attain the PM-10 NAAQS by the extended deadline of December 31, 2006. This failure triggered a requirement under the CAA that Arizona submit a SIP revision providing for annual reductions of PM-10 or PM-10 precursors of not less than five percent of the most recent emissions inventory until the NAAQS is attained. CAA, 42 U.S.C. § 7513a (d).

Arizona submitted the MAG 2007 Five Percent Plan for PM-10 (“2007 Five Percent Plan”) to EPA by the December 31, 2007 deadline. The 2007 Five Percent Plan contained rule revisions in Maricopa County and Pinal County to further reduce PM-10 emissions. The EPA proposed a limited disapproval of the 2007

Five Percent Plan on September 9, 2010. *See* 75 Fed. Reg. 54806. Arizona withdrew the 2007 Five Percent Plan on January 25, 2011. The EPA made a Finding of Failure to Submit the Five Percent Plan on February 14, 2011. *See* 76 Fed. Reg. 8300.

On May 25, 2012, Arizona submitted its 2012 PM-10 SIP revision, also referred to as the 2012 Five Percent Plan, to EPA.² Numerous agencies expended significant resources in developing the 2012 PM-10 SIP, including the Maricopa Association of Governments, its member governments and agencies, ADEQ, the Arizona Department of Transportation, and the Pinal County Air Quality Control District. The public has been involved as well. Before submitting the 2012 PM-10 SIP, ADEQ held public hearings in Maricopa and Pinal Counties and accepted written comments.

Control measures in the 2012 PM-10 SIP include a revised emission inventory, a revised Motor Vehicle Emissions Budget, a revised control strategy focusing on high wind days, five-day advance air quality dust forecasts to identify High Risk Days for dust generation, best practices for unpermitted sources including Off Highway Vehicles to reduce dust, and a Dust Action General Permit

² The 2012 Five Percent Plan consists of the *Maricopa County Association of Governments 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area* and the *2012 Five Percent Plan for PM-10 for the Pinal County Township 1 North, Range 8 East Nonattainment Area*.

to require best management practices from unpermitted sources to prevent exceedances on High Risk Days. These measures have already been implemented and are currently in effect.

On July 20, 2012, EPA made a finding of completeness under the CAA for the 2012 PM-10 SIP, meaning that the 2012 PM-10 SIP met the minimum criteria for plan submission as promulgated by EPA. CAA, 42 U.S.C. § 7410(k)(1)(B). On February 6, 2014, EPA published a proposed rule, proposing to approve the 2012 PM-10 SIP as meeting all relevant statutory and regulatory requirements. *See* 79 Fed. Reg. 7118. The EPA published a final rule approving the 2012 PM-10 SIP on June 10, 2014. *See* 79 Fed. Reg. 33107.

C. Position of Other Parties Regarding Intervention.

Prior to filing this motion, Proposed Intervenor's counsel notified respective counsel for Petitioners and Respondents that Arizona would move to intervene. Counsel for Respondents stated that EPA takes no position on Arizona's proposed intervention. Counsel for Petitioners was unavailable for comment.

III. REASONS FOR GRANTING INTERVENTION

Pursuant to Rule 15(d), Federal Rules of Appellate Procedure, a motion to intervene, "must be filed within 30 days after the petition for review is filed and must contain a concise statement of the interest of the moving party and the grounds for intervention."

A. Arizona's Motion to Intervene Is Timely Filed.

Petitioners filed their Petition for Review on July 29, 2014. Arizona is filing this motion on August 28, 2014. As required under Rule 15(d), Federal Rules of Appellate Procedure, this motion is filed within thirty days of the petition for review. Therefore, Arizona's Motion to Intervene is timely filed.

B. Arizona Has a Significant Protectable Interest in the Outcome of This Matter.

The EPA is required to approve a SIP submission that complies with the CAA and applicable federal regulations, "the Administrator *shall* approve such submittal as a whole if it meets all of the applicable requirements." CAA, 42 U.S.C. 7410(k)(3) (emphasis added). Arizona has expended a significant amount of time and resources developing and implementing control measures specifically designed to ensure compliance with all applicable requirements for a Five Percent Plan. Numerous agencies and the public were involved in developing the 2012 PM-10 SIP, over the course of many years.

Should Petitioners be successful in their Petition for Review challenging the Final Rule, then EPA likely would be required to disapprove the 2012 PM-10 SIP in whole or in part. Such an outcome would directly affect Arizona because it would require Arizona to design and implement new and/or additional control measures for PM-10 and to draft and submit a revised PM-10 SIP. Arizona seeks intervention in order to defend the control measures already implemented and

submitted in the 2012 PM-10 SIP as meeting all of applicable requirements for a Five Percent Plan.

IV. CONCLUSION

After a significant expenditure of time, money, and effort over many years by several agencies and the public, Arizona has implemented numerous control measures for PM-10 emissions which meet all specific and applicable requirements for a Five Percent Plan. These measures are described in the 2012 PM-10 Plan, which EPA approved in the Final Rule as meeting all applicable requirements under the CAA. Arizona seeks to intervene to protect its rights under the Clean Air Act and to defend its 2012 PM-10 Plan as meeting all applicable requirements. Arizona requests that the Court enter an order granting it leave to intervene as a Respondent.

Respectfully submitted this 28th day of August, 2014.

Tom Horne
Arizona Attorney General

/s/ Monique Coady
Monique Coady
Assistant Attorney General
1275 W Washington
Phoenix, AZ 85007
602-542-8500
*Attorneys for Proposed Intervenor-
Respondent*

CERTIFICATE OF SERVICE

I, Monique Coady, hereby certify that a true and correct copy of the foregoing State of Arizona's Motion for Leave to Intervene on Behalf of Respondent was served by Notice of Electronic Filing this 28th day of August, 2014, upon all registered counsel of record using the Court's CM/ECF system.

/s/ Monique Coady
Monique Coady

U.S. EPA FACT SHEET

Final Approval of Arizona's Request to Redesignate the Phoenix-Mesa Area To Attainment for the 1997 Ozone Standard

August 20, 2014

Summary

- EPA is approving Arizona's request to redesignate the Phoenix-Mesa ozone nonattainment area to attainment for the 1997 8-hour ozone National Ambient Air Quality Standard (1997 ozone standard).
- EPA is also approving the State's plan, along with related inventories and motor vehicle emissions budgets, for maintaining attainment of the 1997 ozone standard for ten years beyond redesignation.

Background

- In April 2004, EPA designated the Phoenix-Mesa area as nonattainment for the 1997 ozone standard. Today's actions are based in part upon complete, quality-assured, and certified ambient air quality monitoring data from 2010-2012 showing that Phoenix-Mesa area has attained and continues to attain the 1997 ozone standard. Air quality data collected in 2013, which were certified on May 30, 2014, and preliminary data from 2014 are consistent with attainment.
- EPA proposed to approve Arizona's redesignation request and maintenance plan on March 26, 2014, and provided a 30 day comment period. Our response to comments received is included in the final action.
- In approving the State's redesignation request and maintenance plan for the Phoenix-Mesa area, EPA has concluded that the area has met the criteria for redesignation in section 107(d)(3)(E) of the Clean Air Act and requirements for maintenance plans and contingency provisions in section 175A of the Clean Air Act.
- Today's action signifies a milestone for continued air quality improvement in the Phoenix-Mesa area accomplished through the joint efforts of the Maricopa Association of Governments, Arizona Department of Environmental Quality, Maricopa County Air Quality Department, Pinal County Air Quality Control District, and EPA to protect public health.

- Today's action only concerns the 1997 ozone NAAQS. Despite today's significant milestone in terms of the 1997 ozone standard, the area still remains nonattainment for the more stringent 2008 ozone standard.
- Exposures to ozone can reduce lung function, making it more difficult for people to breathe, especially for those with lung disease, such as children with asthma, and older adults. Ground-level ozone is not emitted directly into the air, but forms through a reaction of nitrogen oxides and volatile organic compounds in the presence of sunlight.

Next Steps

- Today's final action will be published in the Federal Register in approximately two weeks and will be effective 30-days after publication.

For More Information:

<http://www.epa.gov/region9/air/actions/az.html>



EPA-APPROVED INDIANA REGULATIONS

Indiana citation	Subject	Indiana effective date	EPA approval date	Notes
*	*	*	*	*
Article 4. Burning Regulations				
Rule 1. Open Burning ¹				
4-1-0.5	Definitions	02/10/2001	09/17/2014, [insert Federal Register citation].	
4-1-1	Scope	02/10/2001	09/17/2014, [insert Federal Register citation].	
4-1-2	Prohibition against open burning.	02/10/2001	09/17/2014, [insert Federal Register citation].	
4-1-3	Exemptions	10/28/2011	09/17/2014, [insert Federal Register citation].	
4-1-4	Emergency burning	10/28/2011	09/17/2014, [insert Federal Register citation].	
4-1-4.1	Open burning approval; criteria and conditions.	12/15/2002	09/17/2014, [insert Federal Register citation].	
4-1-4.2	Open burning; approval revocation.	02/10/2001	09/17/2014, [insert Federal Register citation].	
4-1-4.3	Open burning approval; delegation of authority.	02/10/2001	09/17/2014, [insert Federal Register citation].	
Rule 2. Incinerators				
4-2-1	Applicability	12/15/2002	11/30/2004, 69 FR 69531.	
4-2-2	Incinerators	12/15/2002	11/30/2004, 69 FR 69531.	
4-2-3	Portable incinerators (Repealed).	12/15/2002	11/30/2004, 69 FR 69531.	
*	*	*	*	*

¹ EPA is approving Rule 1 for the counties of Adams, Allen, Bartholomew, Benton, Blackford, Boone, Brown, Carroll, Cass, Clay, Clinton, Crawford, Daviess Dearborn, Decatur, De Kalb, Delaware, Dubois, Elkhart, Fayette, Fountain, Franklin, Fulton, Gibson, Grant, Greene, Hamilton, Hancock, Harrison, Hendricks, Henry, Howard, Huntington, Jackson, Jasper, Jay, Jefferson, Jennings, Johnson, Knox, Kosciusko, La Porte, Lagrange, Lawrence, Madison, Marion, Marshall, Martin, Miami, Monroe, Montgomery, Morgan, Newton, Noble, Ohio, Orange, Owen, Parke, Perry, Pike, Posey, Pulaski, Putnam, Randolph, Ripley, Rush, St. Joseph, Scott, Shelby, Spencer, Starke, Steuben, Sullivan, Switzerland, Tippecanoe, Tipton, Union, Vanderburgh, Vermillion, Vigo, Wabash, Warren, Warrick, Washington, Wayne, Wells, White, and Whitley.

* * * * *
 [FR Doc. 2014-22049 Filed 9-16-14; 8:45 am]
 BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R09-OAR-2013-0686; FRL 9916-12-Region 9]

Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; State of Arizona; Redesignation of Phoenix-Mesa Area to Attainment for the 1997 8-Hour Ozone Standard

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving, as a revision to the Arizona state implementation plan, a request from the Arizona

Department of Environmental Quality to redesignate the Phoenix-Mesa ozone nonattainment area to attainment of the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS or "standard") because the request meets the statutory requirements for redesignation under the Clean Air Act. EPA is also approving the State's plan for maintaining the 1997 ozone standard in the Phoenix-Mesa area for 10 years beyond redesignation, and the inventories and related motor vehicle emissions budgets within the plan, because they meet the applicable requirements for such plans and budgets.

DATES: This final rule is effective on October 17, 2014.

ADDRESSES: EPA has established a docket for this action: Docket ID No. EPA-R09-OAR-2013-0686. Generally, documents in the docket for this action are available electronically at www.regulations.gov and in hard copy at EPA Region IX, 75 Hawthorne Street,

San Francisco, California. While all documents in the docket are listed at www.regulations.gov, some information may be publicly available only at the hard copy location (e.g., copyrighted material, large maps), and some may not be publicly available in either location (e.g., Confidential Business Information). To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Ginger Vagenas, Air Planning Office (AIR-2), U.S. Environmental Protection Agency, Region IX, (415) 972-3964, vagenas.ginger@epa.gov.

SUPPLEMENTARY INFORMATION: Throughout this document, "we," "us," or "our" refer to EPA.

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I. Summary of Proposed Action

On March 26, 2014 (79 FR 16734), we proposed to take several related actions. First, under Clean Air Act (CAA or “Act”) section 110(k)(3), EPA proposed to approve a March 23, 2009 submittal from the Arizona Department of Environmental Quality (ADEQ) of the Maricopa Association of Governments’ (MAG’s) plan titled “MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area,” (February 2009) (“Eight-Hour Ozone Maintenance Plan”) as a revision to the Arizona state implementation plan (SIP).¹

In connection with the Eight-Hour Ozone Maintenance Plan, EPA proposed to find that the maintenance demonstration showing that the area will continue to attain the 1997 8-hour ozone NAAQS² for 10 years beyond redesignation (i.e., through 2025) and the contingency provisions meet all applicable requirements for maintenance plans and related contingency provisions in CAA section 175A. EPA also proposed to find adequate and approve the motor vehicle emissions budgets (MVEBs) in the Eight-Hour Ozone Maintenance Plan because we found that they meet the applicable transportation conformity requirements under 40 CFR 93.118(e).

Second, under CAA section 107(d)(3)(D), EPA proposed to approve ADEQ’s request that accompanied the submittal of the maintenance plan to redesignate the Phoenix-Mesa 8-hour ozone nonattainment area to attainment for the 1997 8-hour ozone NAAQS. We did so based on our proposed approval of the Eight-Hour Ozone Maintenance Plan, and our conclusion that the area has met the criteria for redesignation

under CAA section 107(d)(3)(E). Our conclusion was based on our determination that the area has attained the 1997 8-hour ozone NAAQS, that relevant portions of the Arizona SIP are fully approved, that the improvement in air quality is due to permanent and enforceable reductions in emissions, and that Arizona has met all the section 110 and part D requirements of the CAA that are applicable to the Phoenix-Mesa 8-hour ozone nonattainment area for purposes of redesignation.

For the purposes of this final rule, we have summarized the basis for our findings in connection with the proposed approvals of the Eight-Hour Ozone Maintenance Plan and redesignation request. For a more detailed explanation as well as background information concerning the 1997 8-hour ozone NAAQS, the CAA requirements for redesignation, and the ozone planning history of the Phoenix-Mesa area, please see our March 26, 2014, proposed rule.

A. Determination That the Area Has Attained the Applicable NAAQS

Prior to redesignating an area to attainment, CAA section 107(d)(3)(E)(i) requires that we determine that the area has attained the NAAQS. For our proposed rule, consistent with the requirements contained in 40 CFR part 50, EPA reviewed the ozone ambient air monitoring data for the monitoring period from 2010 through 2012, as recorded in the EPA Air Quality System (AQS) database, and determined, based on the complete, quality-assured, and certified data for 2010–2012, that the Phoenix-Mesa 8-hour ozone nonattainment area has attained the 1997 8-hour ozone standard because the design value³ is less than 0.084 ppm.⁴ We also reviewed preliminary data from 2013 and found that it was consistent with continued attainment of the standard in the Phoenix-Mesa area. See pages 16737–16739 of our March 26, 2014 proposed rule.

In the proposed rule, we anticipated that by the time we took final action, data for year 2013 would be certified, and that preliminary data for a portion of year 2014 would be available. In

anticipation of the newly certified and available data, we also indicated that, in our final action, we would update our attainment determination for the Phoenix-Mesa area based on complete, certified data for 2011–2013 and would review preliminary data for 2014. As expected, the relevant certifications have been submitted,⁵ and based on review of complete, certified data for 2011–2013, we find that the 8-hour ozone design value for 2011–2013 for the Phoenix-Mesa area is 0.081 parts per million (ppm) based on the data from the monitoring site (North Phoenix) recording the highest design value among the various monitoring sites within the nonattainment area. Like the design value for 2010–2012 documented in the proposed rule, the design value for 2011–2013 is below 0.084 ppm, and is, thus, consistent with attainment of the 1997 ozone NAAQS. Preliminary data for 2014 are also consistent with continued attainment.

B. Determination That the Area Has a Fully Approved SIP Meeting Requirements Applicable for Purposes of Redesignation Under Section 110 and Part D

Sections 107(d)(3)(E)(ii) and (v) of the CAA require EPA to determine that the area has a fully approved applicable SIP under section 110(k) that meets all applicable requirements under section 110 and part D for the purposes of redesignation. For the reasons summarized below, we find that the Phoenix-Mesa area has a fully approved applicable SIP under section 110(k) that meets all applicable requirements under section 110 and part D for the purposes of redesignation. See pages 16739–16741 of our March 26, 2014 proposed rule.

With respect to section 110 of the CAA (General SIP Requirements), we conclude that the Phoenix-Mesa portion of the approved SIP, which includes rules pertaining to areas and sources under the jurisdiction of ADEQ, the Maricopa County Air Quality Department (MCAQD), and the Pinal County Air Quality Control District (PCAQCD), meet all SIP requirements for the Phoenix-Mesa area that are applicable for purposes of redesignation. Our conclusion in this regard is based on our review of the Phoenix-Mesa portion of the Arizona SIP.

⁵ See letters from Michael Sundblom, Air Quality Director, Pinal County Air Quality Control District, dated April 21, 2014; Eric C. Massey, Director, Air Quality Division, ADEQ, dated May 30, 2014; and Dennis Dickerson, Acting Director, Maricopa County Air Quality Department, dated June 3, 2014.

¹ The Phoenix-Mesa 8-hour ozone nonattainment area is sometimes referred to as the Maricopa nonattainment area. The precise boundaries of the area are found at 40 CFR 81.303.

² The 1997 8-hour ozone standard is 0.08 parts per million (ppm) averaged over an 8-hour time frame. Ground-level ozone is an oxidant that is formed from photochemical reactions in the atmosphere between volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight.

³ The design value for the 8-hour standard is the three-year average of the annual fourth-highest daily maximum 8-hour ozone concentration at the worst-case monitoring site in the area. When the design value is less than or equal to 0.084 ppm (based on the rounding convention in 40 CFR part 50, appendix I) at each monitoring site within the area, the area is meeting the 1997 8-hour ozone NAAQS.

⁴ Our proposed rule also includes a table (at page 16743, table 2) that shows that design values have been consistent with attainment of the 1997 ozone standard since the 2005–2007 period.

With respect to part D (of title I of the CAA), we reviewed the Phoenix-Mesa portion of the Arizona SIP for compliance with applicable requirements for nonattainment areas under both subparts 1 and 2.⁶ First, we note that EPA previously approved the Eight-Hour Attainment Plan for the Phoenix-Mesa area based upon the determination that it met all applicable requirements for such plans under subpart 1 of part D, title 1 of the CAA for the 1997 8-hour ozone NAAQS (77 FR 35285, June 13, 2012), including the requirements for an emissions inventory, for contingency measures, and for demonstrations of implementation of reasonably available control measures, of reasonable further progress, and of attainment by the applicable attainment date. As to the other applicable subpart 1 requirements, we find that:

- Arizona has met the nonattainment applicable New Source Review (NSR) requirements for the Phoenix-Mesa eight-hour ozone nonattainment area because rules meeting the fundamental nonattainment NSR requirements for ozone nonattainment areas are approved in the Arizona SIP; and

- The requirements for transportation conformity SIPs under section 176(c) do not apply for the purposes of a redesignation request under section 107(d)(3) because state conformity rules are still required after redesignation and federal conformity rules apply where state rules have not been approved.⁷

With respect to the requirements associated with subpart 2, we noted that the Phoenix-Mesa 8-hour ozone nonattainment area was initially designated nonattainment under subpart 1 of the CAA, but was classified as marginal nonattainment for the 1997 8-hour ozone standard under subpart 2 of part D of the CAA in May 2012,⁸ i.e., after Arizona's submittal of the redesignation request. Under EPA's longstanding policy of evaluating requirements in accordance with the requirements due at the time a redesignation request is submitted, and in consideration of the inequity of applying retroactively any requirements that might in the future be applied, we determined that the additional requirements for marginal nonattainment areas do not apply to the

Phoenix-Mesa 8-hour ozone nonattainment area for the purposes of redesignation.

C. Determination that the Improvement in Air Quality in the Area Is Due to Permanent and Enforceable Emissions Reductions

Section 107(d)(3)(E)(iii) precludes redesignation of a nonattainment area to attainment unless EPA determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable SIP and applicable federal air pollution control regulations and other permanent and enforceable regulations. Based on our review of the control measures that provided for attainment of the now-revoked one-hour ozone NAAQS in the Phoenix metropolitan area and the additional control measures adopted and approved for attainment of the 1997 8-hour ozone standard, and based on our consideration of other factors such as weather patterns and economic activity,⁹ we find that the improvement in air quality in the Phoenix-Mesa area is the result of permanent and enforceable emissions reductions from a combination of numerous EPA-approved State and local stationary source and mobile source control measures, along with federal motor vehicle and nonroad control programs. See pages 16741–16742 of our March 26, 2014 proposed rule.

D. Approval of the Maintenance Plan for the Area Under CAA Section 175A

Section 107(d)(3)(E)(iv) precludes EPA from redesignating an area from nonattainment to attainment unless EPA has fully approved a plan for maintaining compliance with the NAAQS. The required elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment are set forth in CAA section 175A. As explained in the proposed rule, we interpret this section of the Act to require, in general, the following core elements: attainment inventory, maintenance demonstration, monitoring network, verification of continued attainment, and contingency plan.

Based on our review and evaluation of the Eight-Hour Ozone Maintenance Plan, we conclude that it contains the

core elements and meets the requirements of CAA section 175A. See pages 16742–16748 of our proposed rule. Our conclusion was based on the following findings:

- The base year emissions inventory for 2005 is comprehensive, the methods and assumptions used by MAG to develop the 2005 emission inventory are reasonable, and the inventory reasonably estimates actual ozone season emissions in an attainment year. Moreover, we found that the 2005 emissions inventories reflect the latest planning assumptions and emissions models available at the time the plan was developed, and provide a comprehensive and reasonably accurate basis upon which to forecast ozone precursor emissions for years 2019 and 2025;

- MAG's photochemical modeling adequately demonstrates maintenance for at least 10 years after redesignation to attainment;

- The Eight-Hour Ozone Maintenance plan indicates that ADEQ and MCAQD will continue to operate an appropriate air quality monitoring network to verify the continued attainment of the 1997 8-hour ozone NAAQS;

- The continued operation of an ozone monitoring network and the requirement that MCAQD, with input from ADEQ, Arizona DOT, and MAG, must inventory emissions sources and report to EPA on a periodic basis¹⁰ are sufficient for the purpose of verifying continued attainment; and

- The contingency provisions of the Ozone Maintenance Plan identify specific contingency measures,¹¹ contain tracking and triggering mechanisms to determine when contingency measures are needed, contain a sufficient description of the process of recommending and implementing contingency measures, and contain specific timelines for action, and will, therefore, be adequate to ensure prompt correction of a violation and comply with the contingency-related requirements under CAA section 175A(d).

Lastly, we find adequate and are approving the motor vehicle emissions budgets (MVEBs) contained in the Eight-Hour Ozone Maintenance Plan because

¹⁰ See 40 CFR part 51, subpart A ("Air Emissions Reporting Requirements").

¹¹ The Eight-Hour Ozone Maintenance Plan includes both specific contingency measures (such as the Gross Polluter Option for I/M Program Waivers, Increased Waiver Repair Limit Options, and Federal Heavy Duty Diesel Vehicle Emissions Standards, among others) that have already been adopted and are being implemented early, and a mechanism to trigger the adoption of additional measures as needed. See pages 3–21 and 3–22 of the Eight-Hour Ozone Maintenance Plan.

⁶ Subpart 1 contains general, less prescriptive requirements for all nonattainment areas of any pollutant, including ozone, governed by a NAAQS. Subpart 2 contains additional, more specific requirements for ozone nonattainment areas classified under subpart 2.

⁷ See *Wall v. EPA*, 265 F.3d 426, 439 (6th Cir. 2001) upholding this interpretation.

⁸ 77 FR 28424, May 14, 2012.

⁹ Specifically, we reviewed temperature data to determine if unusual meteorological conditions could have played a significant role in attaining the 1997 ozone standard in the Phoenix-Mesa area and determined that unusually favorable meteorology did not play a significant role. We also discussed the economic slowdown affecting the Phoenix-Mesa area starting in 2008 but noted that the downward trend in ozone concentrations had already been established well before that time.

we find that they meet the transportation conformity adequacy requirements under 40 CFR 93.118(e)(4) and (5). Specifically, we find that, among other things, the MVEBs, when considered with emissions from all other sources, would be consistent with maintenance of the 1997 8-hour ozone NAAQS in the Phoenix-Mesa area for ten years beyond redesignation.

II. Responses to Comments on the Proposed Rule

EPA's March 26, 2014 proposed rule provided a 30-day public comment period. During this period, we received two comment letters. One comment letter was from a member of the public who supports EPA's proposed actions. The other letter, from Sierra Club, opposes the proposed actions. A summary of Sierra Club's comments and EPA's responses are provided below.

Comment: The Sierra Club contends that EPA must disapprove the State of Arizona's redesignation request for the Phoenix-Mesa 1997 8-hour ozone nonattainment area because the inclusion of State and Maricopa County rules in the Arizona SIP that provide an affirmative defense potentially applicable to violations due to excess emissions that occur during startup, shutdown, and malfunction ("SSM events") prevents EPA from determining that all applicable Clean Air Act requirements under section 107(d)(3)(E) for redesignations have been met. Specifically, Sierra Club contends that the affirmative defense provisions in the Arizona SIP prevent EPA from determining:

- That the improvement in air quality is due to enforceable reductions as required under section 107(d)(3)(E)(iii) because the affirmative defense provisions applicable during SSM events make emission reductions unenforceable;

- that the maintenance plan demonstrates maintenance of the NAAQS as required under sections 107(d)(3)(E)(iv) and 175A(a) when emissions can increase above the emission inventory and allowable levels during SSM events; and

- that the State has met all requirements applicable to the area under section 110 and part D as required under sections 107(d)(3)(E)(v) and 110(a)(2)(A) because the emission limits in the SIP, at least during SSM events, are not enforceable because of the affirmative defense provisions.

In support of this claim, the Sierra Club notes that EPA has found in other

actions¹² that illegal SSM provisions related to emissions during SSM events constituted grounds for denying redesignation requests. Moreover, the Sierra Club notes that EPA has proposed a SIP call for both the State and Maricopa County affirmative defense provisions applicable during startup and shutdown events based on a finding that such provisions are inconsistent with the CAA. Sierra Club also cites a recent D.C. Circuit Court of Appeals decision (*Natural Resources Defense Council v. EPA*, No. 10–1371 (D.C. Cir., Apr. 18, 2014)—“*Cement Kiln Decision*”),¹³ as standing for the principle that affirmative defense provisions, even those applicable only during malfunctions, are inconsistent with the requirements of the Clean Air Act because such provisions purport to alter or eliminate the jurisdiction of federal courts to assess penalties for violation in contravention of sections 113 and 304. Lastly, Sierra Club includes a recent District Court opinion as an example of a citizen enforcement action undermined by the presence in a SIP of affirmative defense provisions applicable during malfunction events.¹⁴

Response: EPA does not agree that the affirmative defense provisions in the State and Maricopa County portions of the Arizona SIP provide a basis for disapproving the redesignation request for the Phoenix-Mesa nonattainment area for the 1997 8-hour ozone standard for the reasons set forth below.

The CAA sets forth the general criteria for redesignation of an area from nonattainment to attainment in section 107(d)(3)(E). These criteria include a determination by EPA that the area has attained the relevant standard [section 107(d)(3)(E)(i)] and that EPA has fully approved the applicable implementation plan for the area for purposes of redesignation [section 107(d)(3)(E)(ii) and (v)]. EPA must also determine that the improvement in air

¹² The commenter cites two **Federal Register** documents: a proposed disapproval of redesignation requests and maintenance plans for Salt Lake County, Utah County, and Ogden City, Utah PM₁₀ nonattainment areas (74 FR 62717, December 1, 2009), and a final rule requiring Utah to revise SSM provisions in its SIP (76 FR 21639, April 18, 2011).

¹³ The *Cement Kiln Decision* involved a challenge to EPA's National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants, 78 FR 10006 (February 12, 2013), in which EPA included an affirmative defense to civil penalties for violations of emissions standards that result from unavoidable malfunctions. In the *Cement Kiln Decision*, the Court vacated the portion of the 2013 rule pertaining to the affirmative defense.

¹⁴ *Sierra Club v. Energy Future Holdings Corp.*, No. W-12-cv-108, W.D. Tex., memorandum opinion and order filed March 28, 2014.

quality is due to reductions that are permanent and enforceable [section 107(d)(3)(E)(iii)], and that the EPA has fully approved a maintenance plan for the area under section 175A [section 107(d)(3)(E)(iv)]. EPA addressed all these criteria in the proposal to redesignate the Phoenix-Mesa area to attainment for the 1997 8-hour ozone area. The commenter alleges that EPA's analysis is flawed because inclusion of the affirmative defense in the SIP makes the Agency's determination under redesignation criteria at CAA section 107(d)(3)(E)(iii), (iv), and (v) invalid.

As EPA stated in its proposed rule, CAA SIP requirements that are not linked with a particular nonattainment area's designation and classification, including certain section 110 requirements, are not “applicable” for purposes of evaluating compliance with the specific redesignation criteria in CAA sections 107(d)(3)(E)(ii) and (v). 79 FR at 16739, FN 22. EPA maintains this interpretation because these requirements remain applicable after an area is redesignated to attainment. For at least the past 15 years, EPA has applied this interpretation with respect to requirements to which a state will be subject after the area is redesignated. *See, e.g.*, 73 FR 22307, 22312–22313 (April 25, 2008) (proposed redesignation of San Joaquin Valley; EPA concluded that section 110(a)(2)(D) transport requirements are not applicable under section 110(d)(3)(E)(v) because they “continue to apply to a state regardless of the designation of any one particular area in the state”); 62 FR 24826, 24829–24830 (May 7, 1997) (redesignation of Reading, Pennsylvania, Area; EPA concluded that the additional controls required by section 184 were not “applicable” for purposes of section 107(d)(3)(E) because “they remain in force regardless of the area's redesignation status”). Courts reviewing EPA's interpretation of “applicable” in the context of requirements applicable for redesignation have agreed with the Agency. *See Sierra Club v. EPA*, 375 F.3d 537 (7th Cir. 2004) and *Wall v. EPA*, 265 F.3d 426, 438 (6th Cir. 2001). With respect to the affirmative defense provisions in the Arizona SIP, redesignation of the area to attainment will in no way relieve the State and Maricopa County of their responsibilities to remove the affirmative defense provisions from the SIP, if EPA later takes action to require correction of the Arizona SIP with respect to the affirmative defense provisions.¹⁵ Because we conclude that

¹⁵ EPA has proposed, under CAA section 110(k)(5), to find a number of SIPs, including the

the affirmative defense provisions are not applicable requirements for purposes of this redesignation action, the existence of the affirmative defense provisions in the SIP does not undermine our conclusion that the redesignation criteria under section 107(d)(3)(E)(ii) and (v) have been met.

The affirmative defense provisions at issue provide an affirmative defense to monetary penalties for violations due to excess emissions for certain categories of stationary sources during qualifying SSM events.¹⁶ The Sierra Club maintains that the inclusion of these provisions in the SIP renders the emissions limits in the nonattainment SIP and maintenance plan that are subject to the affirmative defense provision unenforceable, thus undermining the Agency's conclusion that the improvement in air quality is due to permanent and enforceable reductions in emissions as required under section 107(d)(3)(E)(iii), and the conclusion that the maintenance plan will ensure maintenance of the NAAQS prospectively as required under section 107(d)(3)(E)(iv). The Sierra Club did not explain the precise basis for its claim that potential assertion of the affirmative defenses at issue would render the existing EPA approved SIP inconsistent with the criteria under section 107(d)(3)(E)(iii) and (iv), and thus, in effect, invites EPA to determine that the existence in the SIP of affirmative defense provisions, without regard to the types of sources relied upon for attainment and maintenance, per se means that EPA may not make a positive determination with respect to the redesignation criteria under CAA sections 107(d)(3)(E)(iii) and (iv). We do not believe that the redesignation criteria must be interpreted so narrowly, but may be interpreted to account for the larger planning context in a given area.

As noted above, the affirmative defense provisions in the Arizona SIP purport to allow sources to avoid monetary penalties for violations of an

applicable emissions limit under certain limited circumstances, but those provisions do not prohibit the state, EPA or citizens from seeking injunctive relief to force a source that is violating the applicable SIP emission limitations to take steps to address the non-compliance. Penalties are not the only means to address exceedances of a SIP emission limitation, even though the possibility or threat of penalties provides deterrence against violations and may cause a source to agree more readily to correct a problem prospectively. The continued availability of injunctive relief supports EPA's contention that the emissions limits in the SIP are sufficiently enforceable for purposes of redesignation, even though EPA now believes that such affirmative defense provisions in SIPs are not consistent with the CAA and must be revised.

Second, attainment of the 1997 ozone standard in the Phoenix-Mesa area and maintenance of the standard through 2025 primarily rely upon emission limits on mobile and area sources to which the affirmative defense provisions in the Arizona SIP do not apply. For example, all of the specific control measures relied upon by the state for numeric credit for attainment and maintenance planning purposes, with very minor exceptions, apply to mobile and area sources. See figures ES-3 and ES-4 on pages ES-4 and ES-5 in the approved *Eight-Hour Ozone Plan for the Maricopa Nonattainment Area* (June 2007); and figures ES-2 and ES-3 on pages ES-5 and ES-6 in the *Eight-Hour Ozone Maintenance Plan*. These control measures relate to nonroad equipment standards, fuel formulations, and inspection and maintenance (I/M) requirements rather than stationary source controls.

This is not to say that controls on stationary source are not an important part of the overall ozone control strategy in the Phoenix-Mesa area. Rather, the point is that the extent to which individual stationary sources, which might assert an affirmative defense for an SSM event that would likely have occurred even in the absence of an affirmative defense, can affect regional ozone concentrations in the Phoenix-Mesa area is likely limited. For instance, based on the emissions inventory for this area, the highest-emitting individual stationary sources in the Phoenix-Mesa area emit approximately 0.80 metric tons per day (mtpd) of VOC and 2.55 mtpd of NO_x based on the individual facility data for 2005 compiled in appendix A, exhibit 1 of the *Eight-Hour Ozone Maintenance Plan*. Such emissions constitute

approximately 0.12% and 0.94% of the overall regional inventory for VOC and NO_x, respectively.

Moreover, overall point source¹⁷ emissions in the Phoenix-Mesa area constitute only 1.7% and 4.0% of VOC and NO_x emissions, respectively, based on the 2005 inventories presented on pages ES-8 and ES-9 of the *Eight-Hour Ozone Maintenance Plan*. These values underscore the importance of mobile and area (and biogenic) sources, to which the affirmative defense provisions do not apply, to the regional inventory, and by extension, to regional ozone concentrations. The current design value for the Phoenix-Mesa area, meanwhile, which is equal to the projected design value, is 0.081 ppm, five percent below the applicable NAAQS. Thus, the hypothetical potential for any one individual point source, or even small subset of such sources, to cause a violation of the 1997 ozone standard in the Phoenix-Mesa area due to higher emissions that would likely have occurred in the absence of the affirmative defense provisions, is quite low. For these reasons, we conclude that the affirmative defense provisions in the Arizona SIP do not make the emission limits relied upon for attainment and maintenance unenforceable for the purposes of CAA section 107(d)(3)(E)(iii) and (iv) or otherwise undermine EPA's approval, finalized herein, of the *Eight-Hour Ozone Maintenance Plan* and related grant of ADEQ's redesignation request for the Phoenix-Mesa area for the 1997 ozone standard.

Sierra Club also contends that EPA has previously found in other actions that illegal SSM provisions constitute grounds for denying redesignation requests and references EPA's December 1, 2009 proposed disapproval of Utah's redesignation requests for Salt Lake County, Utah County, and Ogden City PM₁₀ nonattainment areas (74 FR 62717). However, this aspect of the proposed disapproval, which was one of many deficiencies identified by EPA, was based on the state's inclusion in the submittal of new SIP revisions that would provide blanket exemptions from compliance with emission standards during SSM events. In the redesignation at issue here, the state did not seek to create new SIP provisions that are inconsistent with CAA requirements as part of its redesignation request or

Arizona SIP, substantially inadequate to meet CAA requirements because the SIP provides an affirmative defense for excess emissions during certain SSM events. See 78 FR 12460, at 12533-12536 (February 22, 2013).

¹⁶ EPA approved the State's SSM affirmative defense rules prior to designating the Phoenix-Mesa Area non-attainment for the 1997 8-hour ozone standard. See [Arizona Administrative Code (AAC) R18-2-310 ("Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown")] at 66 FR 48087 (September 18, 2001) and Maricopa County's SSM affirmative defense rule [Maricopa County Rule 140 ("Excess Emissions")] at 67 FR 54957 (August 27, 2002). At the time EPA approved the affirmative defense provisions as a part of the SIP, the Agency believed them to be consistent with CAA requirements.

¹⁷ The *Eight-Hour Ozone Maintenance Plan* defines "point sources" as stationary sources that emit 25 (English) tons per year or more of carbon monoxide, 10 tons per year or more of ozone precursors, or 5 tons or more of PM₁₀ or ammonia compounds. See page 11 of appendix A, exhibit 1 of the *Eight-Hour Ozone Maintenance Plan*.

maintenance plan, and the already existing affirmative defense provisions do not purport to preclude all potential forms of enforcement, or to provide a blanket exemption from compliance.

A more analogous action by EPA is the Agency's final redesignation of the Ohio portion of the Huntington-Ashland (OH-WV-KY) nonattainment area to attainment for the fine particulate matter standard (PM_{2.5}) standard. See 77 FR 76883 (December 31, 2012). In response to comments challenging the proposed redesignation due to the presence of certain SSM provisions in the Ohio SIP, EPA concluded that the SSM provisions in the Ohio SIP did not provide a basis for disapproving the redesignation request. *Id.*, at 76891, 76892. In so concluding, EPA noted that the SSM provisions and related SIP limits at issue in that state were approved into the SIP and thus were permanent and enforceable for the purposes of meeting the criteria for redesignation, and that EPA had other statutory mechanisms for addressing any problems associated with the SSM measures. EPA emphasizes that the redesignation of the area to attainment does not relieve Arizona of the responsibility to remove legally deficient SIP provisions either independently or pursuant to a SIP call. To the contrary, EPA maintains that it may determine that the affirmative defense provisions are contrary to CAA requirements and take action to require correction of those provisions even after the area has been redesignated to attainment. This interpretation is consistent with prior redesignation actions. See *Southwestern Pennsylvania Growth Alliance v. EPA*, 114 F.3d 984 (6th Cir. 1998) (Redesignation of Cleveland-Akron-Lorain area determined valid even though the Agency subsequently proposed a SIP call to require Ohio and other states to revise their SIPs to mitigate ozone transport to other states).

As of this time, the State's and Maricopa County's affirmative defense provisions are part of the approved SIP, and EPA is not required to re-evaluate the validity of previously approved SIP provisions as part of this redesignation.¹⁸ If approved SIP provisions are separately determined to be deficient, EPA is able to evaluate

those concerns in the appropriate context, and can, if necessary, issue a "SIP call," which triggers a requirement for states to submit a corrective SIP revision.

EPA acknowledges that we are currently evaluating a petition that pertains to EPA's SSM Policy that interprets the requirements of the CAA with respect to the proper treatment of excess emissions during SSM events in SIP provisions. As part of that process, EPA is separately evaluating the issue of whether states have authority to create, and EPA has authority to approve, any affirmative defense provisions in SIPs. On June 30, 2011, Sierra Club filed a "Petition to Find Inadequate and Correct Several State Implementation Plans under Section 110 of the Clean Air Act Due to Startup, Shutdown, Malfunction, and/or Maintenance Provisions." The petition includes interrelated requests concerning the treatment of excess emissions in state rules by sources during periods of SSM. On February 22, 2013, EPA proposed to grant in part and deny in part the request in the petition to rescind its policy interpreting the CAA to allow states to have appropriately drawn SIP provisions that provide affirmative defenses to monetary penalties for violations during periods of SSM (78 FR 12460). EPA also proposed either to grant or to deny the petition with respect to the specific existing SIP provisions related to SSM events in each of the 39 states identified by the Sierra Club as inconsistent with the CAA. In this context, EPA has proposed to grant the petition with respect to both the State's and Maricopa County's affirmative defense provisions for startup and shutdown periods, and to deny the petition with respect to the arguments concerning the agencies' affirmative defense provisions for periods of malfunction. Under EPA's February 2013 proposal, a schedule has been proposed for states to submit corrective SIP revisions.

The Sierra Club also argues that the *Cement Kiln Decision*, issued by the D.C. Circuit Court of Appeals on April 18, 2014, prevents EPA from approving any affirmative defense provisions in SIPs because they are inconsistent with CAA provisions relevant to citizen enforcement under sections 113 and 304. In the decision, the D.C. Circuit vacated affirmative defense provisions applicable to violations due to unavoidable malfunctions provided in EPA's standard for emissions from Portland cement plants.¹⁹ The court

concluded that sections 113 and 304 preclude EPA from creating such affirmative defense provision in its own regulations because it would purport to alter or eliminate the jurisdiction of federal courts to assess civil penalties for violations of CAA requirements. EPA is currently analyzing this opinion and is evaluating its impact on our interpretation of the CAA regarding the permissibility of affirmative defenses in SIP provisions, including those applicable to malfunctions. In the event that EPA determines that no affirmative defense provisions are permissible in SIPs, the Agency will have the authority and discretion to require the states to remove deficient provisions from the SIPs pursuant to section 110(k)(5). EPA maintains that this concern is better addressed through the exercise of that authority, than through its authority to redesignate areas that otherwise attain the NAAQS and meet the requirements of section 107(d)(3), consistent with EPA's long standing approach to evaluating requests for redesignation to attainment.

In conclusion, with regard to the redesignation of the Phoenix-Mesa area, Arizona has a fully approved SIP. The provisions that the Sierra Club objects to do not preclude EPA's determination that the emissions reductions that have provided for attainment and that will provide for maintenance of the 1997 8-hour ozone standard in the Phoenix-Mesa area are permanent and enforceable, as those terms are meant in section 107(d)(3) of the CAA, or that the state has met all applicable requirements under section 110 and part D for the purposes of redesignation. In addition, the area has attained the 1997 8-hour ozone standard since 2007, and has demonstrated it can maintain compliance with the standard for at least 10 years after redesignation to attainment. EPA notes, moreover, that it is approving contingency provisions under section 175A(d) as part of the area's maintenance plan. The contingency element of the maintenance plan provides assurance that the area can promptly correct a violation that might occur after redesignation. Finally, EPA is addressing the affirmative defense provisions in the Arizona SIP in separate action or actions, and redesignation of the area to attainment will in no way relieve the State and Maricopa County of their responsibilities to remove the affirmative defense provisions from the SIP, if EPA later takes final action to

¹⁸ See September 4, 1992 memorandum entitled "Procedures for Processing Requests to Redesignate Areas to Attainment," from John Calcagni, Director, Air Quality Management Division, EPA Office of Air Quality Planning and Standards, at page 3; *Southwestern Pennsylvania Growth Alliance v. Browner*, 144 F.3d, 984, 989-990 (6th Cir. 1998); *Wall v. EPA*, 265 F.3d 426 (6th Cir. 2001); 68 FR 25418, 25426, May 12, 2003.

¹⁹ National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing

Industry and Standards of Performance for Portland Cement Plants, 78 FR 10006 (February 12, 2013).

require such revisions to the Arizona SIP.

III. Final Action

Under CAA section 110(k)(3), and for the reasons provided above and in the proposed rule, EPA is approving ADEQ's submittal dated March 23, 2009 of the *MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area* (February 2009) ("Phoenix-Mesa Eight-Hour Ozone Maintenance Plan") as a revision to the Arizona SIP. In connection with the Phoenix-Mesa Eight-Hour Ozone Maintenance Plan, EPA finds that the maintenance demonstration showing how the area will continue to attain the 1997 8-hour ozone NAAQS for 10 years beyond redesignation (i.e., through 2025) and the contingency provisions meet all applicable requirements for maintenance plans and related contingency provisions in CAA section 175A.

EPA is also finding adequate and approving the motor vehicle emissions budgets (MVEBs) from the Eight-Hour Ozone Maintenance Plan for transportation conformity purposes because we find that they meet the applicable transportation conformity requirements under 40 CFR 93.118(e). The MVEBs are 43.8 metric tons per day (mtpd) of VOC and 101.8 mtpd of NO_x. They include a 10% safety margin, and correspond to the peak episode day (Thursday) in June 2025 that was used to model maintenance of the 1997 8-hour ozone NAAQS in the Phoenix-Mesa area in the Eight-Hour Ozone Maintenance Plan.

These new MVEBs become effective on the date of publication of this final rule in the **Federal Register** (see 40 CFR 93.118(f)(2)) and must be used by U.S. Department of Transportation and the Maricopa Association of Governments for future transportation conformity analyses for the Phoenix-Mesa area with applicable horizon years after 2024. The existing 2008 VOC and NO_x MVEBs established in MAG's approved Eight-Hour Ozone Attainment Plan also remain in effect. On-road motor vehicle emissions in any required analysis years up to and including 2024 cannot exceed levels established by those previously-approved MVEBs.

Second, under CAA section 107(d)(3)(D), we are approving ADEQ's request, which accompanied the submittal of the maintenance plan, to redesignate the Phoenix-Mesa 8-hour ozone nonattainment area to attainment

for the 1997 8-hour ozone NAAQS.²⁰ We are doing so based on our conclusion that the area has met the five criteria for redesignation under CAA section 107(d)(3)(E). Our conclusion in this regard is in turn based on our determination that the area has attained the 1997 ozone NAAQS; that relevant portions of the Arizona SIP are fully approved; that the improvement in air quality is due to permanent and enforceable reductions in emissions; that Arizona has met all requirements applicable to the Phoenix-Mesa area with respect to section 110 and part D of the CAA; and that the area has a fully approved maintenance plan meeting the requirements of CAA section 175A (i.e., the Eight-Hour Ozone Maintenance Plan approved herein).

IV. Statutory and Executive Order Reviews

Under the CAA, redesignation of an area to attainment under section 107(d)(3)(E) and the accompanying approval of a maintenance plan as a SIP revision under section 110(k)(3) are actions that affect the status of a geographical area and do not impose any additional regulatory requirements on sources beyond those imposed by State law. Redesignation to attainment does not in and of itself create any new requirements, but rather results in the applicability of requirements contained in the CAA for areas that have been redesignated to attainment. Moreover, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve State choices, provided that they meet the criteria of the Clean Air Act. Accordingly, these actions merely approve a State plan and redesignation request as meeting federal requirements and do not impose additional requirements beyond those imposed by state law. For these reasons, these actions:

- Are not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Do not impose an information collection burden under the provisions

²⁰ As noted in our proposed rule at 79 FR 16736, EPA has lowered the 8-hour ozone standard to 0.075 ppm (the 2008 8-hour ozone standard), and has designated the Phoenix-Mesa area as marginal nonattainment for the 2008 8-hour ozone standard. Today's action redesignates the Phoenix-Mesa area as attainment for the 1997 8-hour ozone standard only. The Phoenix-Mesa area remains nonattainment for the more stringent 2008 8-hour ozone standard until redesignated for that standard.

of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);

- Are certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Do not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Do not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Are not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Are not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Are not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Do not provide EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the State, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law. Nonetheless, in accordance with EPA's 2011 Policy on Consultation and Coordination with Tribes, EPA has discussed the actions with the three Tribes located within the Phoenix-Mesa 8-hour ozone nonattainment area: The Fort McDowell Yavapai Nation, the Salt River-Pima Maricopa Indian Community, and the Tohono O'odham Nation.

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in

the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by November 17, 2014. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements (see section 307(b)(2)).

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

40 CFR Part 81

Environmental protection, Air pollution control, National parks, Wilderness areas.

Dated: August 20, 2014.

Jared Blumenfeld,

Regional Administrator, Region IX.

Chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

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

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

Subpart D—Arizona

■ 2. Section 52.120 is amended by adding paragraph (c)(160) to read as follows:

§ 52.120 Identification of plan.

* * * * *

(c) * * *

(160) The following plan was submitted on March 23, 2009, by the Governor’s designee.

- (i) [Reserved]
- (ii) Additional materials.

(A) Arizona Department of Environmental Quality.

ARIZONA—1997 8-HOUR OZONE NAAQS
[Primary and Secondary]

(1) *MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area* (February 2009), adopted by the Arizona Department of Environmental Quality on March 23, 2009, excluding the appendices.

* * * * *

PART 81—DESIGNATION OF AREAS FOR AIR QUALITY PLANNING PURPOSES

■ 3. The authority citation for part 81 continues to read as follows:

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

■ 4. Section 81.303 is amended by:

■ a. Removing the table heading “Arizona—Ozone (Arizona—1997 8-Hour Ozone NAAQS (Primary and Secondary))” and adding in its place “Arizona—1997 8-Hour Ozone NAAQS (Primary and Secondary)”; and

■ b. In the newly headed table “Arizona—1997 8-Hour Ozone NAAQS (Primary and Secondary),” under “Phoenix-Mesa, AZ:” revising the entries for “Maricopa County (part)” and “Pinal County (part)”.

The revision reads as follows:

§ 81.303 Arizona.

* * * * *

Designated area	Designation ^a		Category/ classification	
	Date ¹	Type	Date ¹	Type
Phoenix-Mesa, AZ: Maricopa County (part)	10/17/2014	Attainment.		

ARIZONA—1997 8-HOUR OZONE NAAQS—Continued
 [Primary and Secondary]

Designated area	Designation ^a		Category/ classification	
	Date ¹	Type	Date ¹	Type
T1N, R1E (except that portion in Indian Country); T1N, R2E; T1N, R3E; T1N, R4E; T1N, R5E; T1N, R6E; T1N, R7E; T1N, R1W; T1N, R2W; T1N, R3W; T1N, R4W; T1N, R5W; T1N, R6W; T2N, R1E; T2N, R2E; T2N, R3E; T2N, R4E; T2N, R5E; T2N, R6E; T2N, R7E; T2N, R8E; T2N, R9E; T2N, R10E; T2N, R11E; T2N, R12E (except that portion in Gila County); T2N, R13E (except that portion in Gila County); T2N, R1W; T2N, R2W; T2N, R3W; T2N, R4W; T2N, R5W; T2N, R6W; T2N, R7W; T3N, R1E; T3N, R2E; T3N, R3E; T3N, R4E; T3N, R5E; T3N, R6E; T3N, R7E; T3N, R8E; T3N, R9E; T3N, R10E (except that portion in Gila County); T3N, R11E (except that portion in Gila County); T3N, R12E (except that portion in Gila County); T3N, R1W; T3N, R2W; T3N, R3W; T3N, R4W; T3N, R5W; T3N, R6W; T4N, R1E; T4N, R2E; T4N, R3E; T4N, R4E; T4N, R5E; T4N, R6E; T4N, R7E; T4N, R8E; T4N, R9E; T4N, R10E (except that portion in Gila County); T4N, R11E (except that portion in Gila County); T4N, R12E (except that portion in Gila County); T4N, R1W; T4N, R2W; T4N, R3W; T4N, R4W; T4N, R5W; T4N, R6W; T5N, R1E; T5N, R2E; T5N, R3E; T5N, R4E; T5N, R5E; T5N, R6E; T5N, R7E; T5N, R8E; T5N, R9E (except that portion in Gila County); T5N, R10E (except that portion in Gila County); T5N, R1W; T5N, R2W; T5N, R3W; T5N, R4W; T5N, R5W; T6N, R1E (except that portion in Yavapai County); T6N, R2E; T6N, R3E; T6N, R4E; T6N, R5E; T6N, R6E; T6N, R7E; T6N, R8E; T6N, R9E (except that portion in Gila County); T6N, R10E (except that portion in Gila County); T6N, R1W (except that portion in Yavapai County); T6N, R2W; T6N, R3W; T6N, R4W; T6N, R5W; T7N, R1E (except that portion in Yavapai County); T7N, R2E; (except that portion in Yavapai County); T7N, R3E; T7N, R4E; T7N, R5E; T7N, R6E; T7N, R7E; T7N, R8E; T7N, R9E (except that portion in Gila County); T7N, R1W (except that portion in Yavapai County); T7N, R2W (except that portion in Yavapai County); T8N, R2E (except that portion in Yavapai County); T8N, R3E (except that portion in Yavapai County); T8N, R4E (except that portion in Yavapai County); T8N, R5E (except that portion in Yavapai County); T8N, R6E (except that portion in Yavapai County); T8N, R7E (except that portion in Yavapai County); T8N, R8E (except that portion in Yavapai and Gila Counties); T8N, R9E (except that portion in Yavapai and Gila Counties); T1S, R1E (except that portion in Indian Country); T1S, R2E (except that portion in Pinal County and in Indian Country); T1S, R3E; T1S, R4E; T1S, R5E; T1S, R6E; T1S, R7E; T1S, R1W; T1S, R2W; T1S, R3W; T1S, R4W; T1S, R5W; T1S, R6W; T2S, R1E (except that portion in Indian Country); T2S, R5E; T2S, R6E; T2S, R7E; T2S, R1W; T2S, R2W; T2S, R3W; T2S, R4W; T2S, R5W; T3S, R1E; T3S, R1W; T3S, R2W; T3S, R3W; T3S, R4W; T3S, R5W; T4S, 1E; T4S, R1W; T4S, R2W; T4S, R3W; T4S, R4W; T4S, R5W.				
Pinal County (part)	10/17/2014	Attainment.		
Apache Junction: T1N, R8E; T1S, R8E (Sections 1 through 12)				
* * * * *				

^a Includes Indian Country located in each county or area, except as otherwise specified.
¹ This date is June 15, 2004, unless otherwise noted.

* * * * *
 [FR Doc. 2014-22029 Filed 9-16-14; 8:45 am]
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ENVIRONMENTAL PROTECTION AGENCY
40 CFR Part 180
[EPA-HQ-OPP-2014-0324; FRL-9915-81]
Butanedioic Acid, 2-methylene-, Polymer With 2,5-fuandione, Sodium and Ammonium Salts, Hydrogen Peroxide-Initiated; Tolerance Exemption
AGENCY: Environmental Protection Agency (EPA).
ACTION: Final rule.

SUMMARY: This regulation establishes an exemption from the requirement of a tolerance for residues of butanedioic acid, 2-methylene-, polymer with 2,5-furandione, sodium and ammonium salts, hydrogen peroxide-initiated when used as an inert ingredient in a pesticide formulation. Technology Sciences Group Inc. on behalf of Specialty Fertilizer Products LLC. submitted a petition to EPA under the Federal Food, Drug, and Cosmetic Act (FFDCA) requesting an exemption from the requirement of a tolerance. This regulation eliminates the need to



Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards

DISCLAIMER

This document has been reviewed by the Office of Air Quality Planning and Standards (OAQPS), U.S. Environmental Protection Agency (EPA), and approved for publication. This OAQPS Policy Assessment contains conclusions of the staff of the OAQPS and does not necessarily reflect the views of the Agency. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use.

EPA-452/R-14-006

August 2014

*Policy Assessment for the Review of the Ozone National Ambient Air
Quality Standards*

U.S. Environmental Protection Agency
Office of Air and Radiation
Office of Air Quality Planning and Standards
Health and Environmental Impacts Division
Ambient Standards Group
Research Triangle Park, North Carolina 27711

EXECUTIVE SUMMARY

This Policy Assessment (PA) has been prepared by staff in the Environmental Protection Agency's (EPA) Office of Air Quality Planning and Standards (OAQPS) as part of the Agency's review of the primary (health-based) and secondary (welfare-based) national ambient air quality standards (NAAQS) for ozone (O₃). The current O₃ standards were established in 2008 at the end of the previous review cycle. These standards include a primary O₃ standard of 75 ppb,¹ and a secondary O₃ standard set identical to the primary standard. These 2008 standards are now under review, as required by sections 108 and 109 of the Clean Air Act (Act). The PA presents analyses and staff conclusions regarding the policy implications of the key scientific and technical information that informs this review. Staff conclusions are presented regarding the adequacy of the current standards and potential alternative standards appropriate for consideration. Staff analyses in this PA are based on the scientific and technical information, including the uncertainties and limitations related to this information, assessed and presented in the Integrated Science Assessment for Ozone (ISA), the Health Risk and Exposure Assessment for Ozone (HREA), and the Welfare Risk and Exposure Assessment for Ozone (WREA). The PA is intended to "bridge the gap" between the relevant scientific evidence and technical information and the judgments required of the EPA Administrator in determining whether to retain or revise the current standards. Development of the PA is also intended to facilitate advice and recommendations on the standards to the Administrator from an independent scientific review committee, the Clean Air Scientific Advisory Committee (CASAC), as provided for in the Act. Staff considerations and conclusions in this final PA have been informed by comments and recommendations from CASAC, and by public comments.

Health Effects and Review of the Primary Standard

A longstanding and comprehensive evidence base, stronger now than in the last review, documents the effects of O₃ exposures on human health. It is well-understood that secondary oxidation products, which develop as a result of O₃ exposure, initiate numerous responses at the cellular, tissue, and whole organ level of the respiratory system. These key initiating events have the potential to result in a variety of adverse respiratory effects, as well as effects outside the respiratory system (e.g., cardiovascular effects). Ozone inhalation poses the greatest risk to people in certain lifestages (i.e., children, older adults), people with asthma, people with certain genetic variants (related to oxidative stress and inflammation), people with diets limited in

¹ The level of the O₃ standard is specified as 0.075 ppm rather than 75 ppb. However, in this PA we refer to ppb, which is most often used in the scientific literature and in the ISA, in order to avoid the confusion that could result from switching units when discussing the evidence in relation to the standard level.

certain nutrients (antioxidant vitamins C and E), and people experiencing the largest exposures (e.g., outdoor workers, children). The evidence from animal toxicology and controlled human exposure studies indicates that higher exposure concentrations and repeated exposures lead to a greater prevalence of effects and increasingly severe effects, including increased susceptibility to other respiratory stressors, among exposed populations, especially these at-risk populations.

As an initial matter in this PA, staff concludes that reducing ambient O₃ concentrations to meet the current standard of 75 ppb will provide important improvements in public health protection. This initial conclusion is based on (1) the strong body of scientific evidence indicating a wide range of adverse health outcomes attributable to exposures to O₃ concentrations found in the ambient air and (2) estimates indicating decreased O₃ exposures and health risks upon meeting the current standard, compared to recent air quality.

Strong support for this initial conclusion is provided by controlled human exposure studies of respiratory effects, and by quantitative estimates of exposures of concern and lung function decrements based on information in these studies. Analyses in the HREA estimate that the percentages of children (i.e., all children and children with asthma) in urban case study areas² experiencing exposures of concern, or experiencing abnormal and potentially adverse lung function decrements, are consistently lower for air quality that just meets the current O₃ standard than for recent air quality. The HREA estimates such reductions consistently across the urban case study areas and across years evaluated, and throughout various portions of individual urban case study areas, including in urban cores and in the portions of case study areas surrounding urban cores. These reductions in exposures of concern and O₃-induced lung function decrements reflect consistent reductions in relatively high O₃ concentrations (i.e., those in the upper portions of the distribution of ambient concentrations) following reductions in precursor emissions to meet the current standard. Thus, populations in both urban and non-urban areas would be expected to experience important reductions in O₃ exposures and O₃-induced lung function risks upon meeting the current standard.

Support for this initial conclusion is also provided by estimates of O₃-associated mortality and morbidity based on application of concentration-response relationships from epidemiologic studies to air quality adjusted to just meet the current standard. While these estimates are associated with uncertainties that complicate their interpretation, they suggest that O₃-associated mortality and morbidity would be expected to decrease nationwide following reductions in precursor emissions to meet the current O₃ standard.

² HREA analyses for exposures of concern and for risk of moderate or large lung function decrements covered 15 urban case study areas. HREA analyses of mortality and morbidity endpoints from epidemiologic studies covered 12 urban case study areas. Exposures and risks were evaluated for the years 2006 through 2010.

While meeting the current O₃ standard is estimated to result in important public health improvements compared to recent air quality, staff further concludes that the O₃-attributable health effects estimated to be allowed by air quality that meets the current primary standard can reasonably be judged important from a public health perspective. This conclusion is based on consideration of: (1) the scientific evidence discussed in the ISA, including controlled human exposure studies reporting abnormal or adverse respiratory effects following exposures to O₃ concentrations below the level of the current standard and epidemiologic studies indicating associations with morbidity and mortality for air quality that would likely meet the current standard; (2) HREA estimates of O₃ exposures of concern, O₃-induced lung function risks, and O₃-associated morbidity and mortality risks; (3) advice received from CASAC based on their review of draft versions of the ISA, HREA, and PA, and advice received in previous reviews; and (4) staff consideration of public comments. Staff reaches the overall conclusion that the available health evidence and exposure/risk information call into question the adequacy of the public health protection provided by the current standard.

Given this conclusion regarding the adequacy of the current standard, staff also reaches conclusions for the Administrator's consideration regarding the elements of potential alternative primary O₃ standards that could be supported by the available evidence and exposure/risk information. Any such potential alternative standards should protect public health against effects associated with exposures to O₃, alone or in combination with related photochemical oxidants, taking into account the available scientific evidence and exposure/risk information. In reaching conclusions about the range of potential alternative standards appropriate for consideration, staff is mindful that the Act requires primary standards that, in the judgment of the Administrator, are requisite to protect public health with an adequate margin of safety. In setting a primary standard that is "requisite" to protect public health, the EPA's task is to establish standards that are neither more nor less stringent than necessary. The requirement that primary standards provide an "adequate margin of safety" is intended to address uncertainties associated with inconclusive scientific and technical information. Thus, the Act does not require that primary NAAQS be set at zero-risk levels, but rather at levels that reduce risk sufficiently to protect public health with an adequate margin of safety.

The degree of public health protection provided by any NAAQS results from the collective impact of the elements of the standard, including the indicator, averaging time, form, and level. Staff's conclusions on each of these elements are summarized below.

- (1) **Indicator:** It is appropriate to continue to use O₃ as the indicator for a standard that is intended to address effects associated with exposure to O₃, alone or in combination with related photochemical oxidants. Based on the available information, staff concludes that

there is no basis for considering any alternative indicator at this time. Meeting an O₃ standard can be expected to provide some degree of protection against potential health effects that may be independently associated with other photochemical oxidants, even though such effects are not discernible from currently available studies indexed by O₃ alone. Staff notes that control of ambient O₃ concentrations is generally understood to provide the best means of controlling photochemical oxidants, and thus of protecting against effects that may be associated with individual species and/or the broader mix of photochemical oxidants. CASAC concurred with these conclusions.

(2) **Averaging time:** It is appropriate to consider retaining the current 8-hour averaging time for the primary O₃ standard.

(a) Staff concludes that an 8-hour averaging time remains appropriate for addressing health effects associated with short-term exposures to ambient O₃. An 8-hour averaging time is similar to the exposure periods evaluated in controlled human exposure studies, including recent studies reporting respiratory effects following exposures to O₃ concentrations below the level of the current standard. In addition, epidemiologic studies provide evidence for health effect associations with 8-hour O₃ concentrations, as well as with 1-hour and 24-hour concentrations. Staff concludes that a standard with an 8-hour averaging time (combined with an appropriate standard form and level) would be expected to provide substantial protection against health effects attributable to 1- and 24-hour exposures. CASAC concurred, concluding that the current 8-hour averaging time is justified by the combined evidence from epidemiologic and clinical studies.

(b) Staff also concludes that a standard with an 8-hour averaging time can provide protection against respiratory effects associated with longer term O₃ exposures. Air quality analyses indicate that just meeting an 8-hour standard with an appropriate level (i.e., 70 to 60 ppb, as discussed below) would be expected to maintain long-term O₃ concentrations (i.e., seasonal average of 1-hour daily max) below those where a key study indicates the most confidence in the concentration-response relationship with respiratory mortality. In addition, risk analyses in the HREA estimate that just meeting such alternative 8-hour standards would be expected to decrease the incidence of respiratory mortality associated with long-term O₃ concentrations. In considering other long-term O₃ metrics evaluated in recent health studies, analyses in the HREA indicate that the large majority of the U.S. population lives in locations where reducing precursor emissions would be

expected to decrease warm season averages of daily 8-hour ambient O₃ concentrations, a long-term metric used in several recent studies reporting associations with respiratory morbidity. Taken together, these analyses suggest that a standard with an 8-hour averaging time, coupled with the current 4th-highest form and an appropriate level (discussed below), could provide appropriate protection against the long-term O₃ concentrations reported to be associated with respiratory morbidity and mortality. CASAC concurred, concluding that the 8-hour averaging time provides protection against the adverse impacts of long-term O₃ exposures.

- (3) **Form:** For an 8-hour O₃ standard with a revised level, as described below, it is appropriate to consider retaining the current form, defined as the 3-year average of the annual 4th-highest daily maximum concentration. Staff notes that this form was selected in 1997 and 2008 in recognition of the public health protection provided, when coupled with an appropriate averaging time and level, combined with the stability provided for implementation programs. The currently available evidence and exposure/risk information do not call into question these conclusions from previous reviews. CASAC concurred with this conclusion, agreeing that the current form, combined with the current 8-hour averaging time, provides health protection while allowing for atypical meteorological conditions that can lead to abnormally high ambient O₃ concentrations which, in turn, provides programmatic stability.
- (4) **Level:** The available scientific evidence and exposure/risk information provide strong support for considering a primary O₃ standard with a revised level in order to increase public health protection, including for at-risk populations and lifestages. Staff concludes that it is appropriate in this review to consider a revised primary O₃ standard level within the range of 70 ppb to 60 ppb. A standard set within this range would result in important improvements in public protection, compared to the current standard, and could reasonably be judged to provide an appropriate degree of public health protection, including for at-risk populations and lifestages. In its advice to the Administrator, CASAC also concluded that the scientific evidence and exposure/risk information support consideration of standard levels from 70 to 60 ppb. Within this range, CASAC concluded that a level of 70 ppb would provide little margin of safety and, therefore, provided the policy advice that the level of the O₃ standard should be set below 70 ppb.

The Administrator's consideration of specific standard levels will reflect her judgments as to the appropriate weight to be given to various aspects of the scientific evidence and exposure/risk information, including the appropriate weight to be given to important uncertainties. To inform these judgments, staff considers what the evidence and information indicate with regard to the degree of public health protection that could be achieved with levels from the upper (70 ppb), middle (65 ppb), and lower (60 ppb) parts of the range.

A level of 70 ppb is below the O₃ exposure concentration that has been reported to elicit a broad range of respiratory effects that includes airway hyperresponsiveness and decreased lung host defense, in addition to lung function decrements, airway inflammation, and respiratory symptoms (i.e., 80 ppb). A level of 70 ppb is also just below the lowest exposure concentration at which the combined occurrence of respiratory symptoms and lung function decrements have been reported (i.e., 72 ppb), a combination judged adverse by the ATS (section 3.1.3). A level of 70 ppb is above the lowest exposure concentration demonstrated to result in lung function decrements and pulmonary inflammation (i.e., 60 ppb). Compared to the current standard, a revised O₃ standard with a level of 70 ppb would be expected to (1) reduce the occurrence of exposures of concern to O₃ concentrations that result in respiratory effects in healthy adults (at or above 60 and 70 ppb) by about 45 to 95%, almost eliminating the occurrence of multiple exposures at or above 70 ppb; (2) reduce the occurrence of moderate-to-large O₃-induced lung function decrements (FEV₁ decrements \geq 10, 15, 20%) by about 15 to 35%, most effectively limiting the occurrence of multiple decrements and decrements \geq 15, 20%; (3) more effectively maintain short- and long-term O₃ concentrations below those present in the epidemiologic studies that reported significant O₃ health effect associations in locations likely to have met the current standard;³ and (4) reduce the risk of O₃-associated mortality and morbidity, particularly the risk associated with the upper portions of the distributions of ambient O₃ concentrations.

A level of 65 ppb is well below the O₃ exposure concentration that has been reported to elicit the wide range of potentially adverse respiratory effects noted above, and is below the lowest exposure concentration at which the combined occurrence of respiratory

³ Though epidemiologic studies also provide evidence for O₃ health effect associations in locations likely to have met a standard with a level of 70 ppb, as discussed below for lower standard levels.

symptoms and lung function decrements has been reported. As noted above for 70 ppb, a level of 65 ppb is above the lowest exposure concentration demonstrated to result in lung function decrements and pulmonary inflammation. Compared to a standard with a level of 70 ppb, a revised standard with a level of 65 ppb would be expected to (1) further reduce the occurrence of exposures of concern (by about 80 to 100% compared to the current standard), decreasing exposures at or above 60 ppb and almost eliminating exposures at or above 70 and 80 ppb; (2) further reduce the occurrence of FEV₁ decrements \geq 10, 15, and 20% (by about 30 to 65%, compared to the current standard); (3) more effectively maintain short- and long-term O₃ concentrations below those present in the epidemiologic studies that reported significant O₃ health effect associations in locations likely to have met the current standard;⁴ and (4) further reduce the risk of O₃-associated mortality and morbidity, particularly the risk associated with the upper portion of the distribution of ambient O₃ concentrations.

A level of 60 ppb is well below the O₃ exposure concentration shown to result in the combined occurrence of respiratory symptoms and lung function decrements, and corresponds to the lowest exposure concentration demonstrated to result in lung function decrements and pulmonary inflammation. Compared to a standard with a level of 70 or 65 ppb, a revised standard with a level of 60 ppb would be expected to (1) further reduce the occurrence of exposures of concern (by about 95 to 100% compared to the current standard), almost eliminating exposures at or above 60 ppb; (2) further reduce the occurrence of FEV₁ decrements \geq 10, 15, and 20%, (by about 45 to 85% compared to the current standard); (3) more effectively maintain short- and long-term O₃ concentrations below those present in the epidemiologic studies that reported significant O₃ health effect associations in locations likely to have met the current standard;⁵ and (4) further reduce the risk of O₃-associated mortality and morbidity, particularly the risk associated with the upper portion of the distribution of ambient O₃ concentrations.

Welfare Effects and Review of the Secondary Standard

The longstanding and comprehensive evidence base, stronger than in the last review, documents the vegetation and ecosystem-related effects of O₃ in ambient air. In particular, recent controlled studies at the molecular, biochemical and cellular scales have increased the

⁴ Though epidemiologic studies also provide evidence for O₃ health effect associations in locations likely to have met a standard with a level of 65 ppb.

⁵ Epidemiologic studies have not evaluated O₃ health effect associations based primarily on air quality in locations likely to have met a standard with a level of 60 ppb.

mechanistic understanding of the basic biology of how plants are affected by oxidative stress. These studies have focused on a variety of plant responses to O₃ including: 1) reduced carbon dioxide uptake due to stomatal closure; 2) the upregulation of genes associated with plant defense, signaling, hormone synthesis and secondary metabolism; 3) the down regulation of genes related to photosynthesis and general metabolism; 4) the loss of carbon assimilation capacity due to declines in the quantity and activity of key proteins and enzymes; and 5) the negative impacts on the efficiency of the photosynthetic light reactions. In addition, these effects at the plant scale can be linked to an array of effects at larger scales, as shown in recent field studies, together with previously available evidence. Specifically, plant-scale effects, such as altered rates of leaf gas exchange, growth, and reproduction at the individual plant level, can result in larger scale effects in ecosystems, such as alterations in productivity, carbon storage, water cycling, nutrient cycling, and community composition. The available information also demonstrates a relationship between changes in tropospheric O₃ concentrations and radiative forcing, and between changes in tropospheric O₃ concentrations and effects on climate.

The long-standing body of available evidence also provides a wealth of information on aspects of O₃ exposure that are important in influencing plant response. These include support for the conclusions that: O₃ effects in plants are cumulative; higher O₃ concentrations appear to be more important than lower concentrations in eliciting a response; plant sensitivity to O₃ varies with time of day and plant development stage; and quantifying exposure with indices that cumulate hourly O₃ concentrations and preferentially weight the higher concentrations improves the explanatory power of exposure/response models for growth and yield, over using indices based on mean and peak exposure values.

As an initial matter in this PA, staff concludes that reducing ambient O₃ concentrations to meet the current standard of 75 ppb will provide important improvements in public welfare protection. This initial conclusion is based on (1) the strong body of scientific evidence indicating a wide range of effects to sensitive vegetation, including tree biomass loss, crop yield loss, and visible foliar injury, and associated ecosystems and services attributable to cumulative exposures to O₃ concentrations found in the ambient air and (2) estimates indicating decreased cumulative O₃ exposures and welfare risks upon meeting the current standard, compared to recent air quality. Strong support for this conclusion is provided by the available welfare evidence; by WREA estimates of cumulative exposures to O₃ concentrations shown to result in decreased biomass loss, crop yield loss, and visible foliar injury incidence under just meeting the current secondary standard; and by WREA estimates of improvements in carbon storage and air pollution removal in urban and commercial forests. Support for this conclusion is also provided by WREA estimates of increased protection for Class I areas from O₃-associated visible foliar injury and tree biomass loss.

Staff further concludes that the O₃-attributable welfare effects estimated to be allowed by air quality that meets the current secondary standard call into question the adequacy of the public welfare protection provided by the current standard. In addition, staff also concludes that the public welfare protection is most appropriately judged through the use of a more biologically relevant form, such as the cumulative, seasonal W126-metric. These conclusions are based on consideration of: (1) the scientific evidence, including controlled exposure studies reporting effects on plant growth, productivity and carbon storage, crop yield loss, and visible foliar injury following exposures to O₃ concentrations below the level of the current standard and field based studies that support these conclusions for air quality that would likely meet the current standard; (2) the longstanding and extensive evidence demonstrating that the risk to vegetation comes from cumulative seasonal exposures; (3) evidence suggesting that in Class I areas meeting the current standard, cumulative seasonal O₃ exposures occur that are associated with estimates of tree growth impacts of a magnitude that are reasonably considered important to public welfare; (4) WREA estimates of reductions in biomass loss, crop yield loss, and visible foliar injury incidence, and improvements in carbon storage and air pollution removal in urban and commercial forests when meeting alternative W126 levels; (5) advice received from CASAC based on their review of draft versions of the ISA, WREA, and PA, and advice received in previous reviews; and (6) public comments. Staff reaches the overall conclusion that the available vegetation and ecosystem effects evidence and exposure/risk information, including for associated ecosystem services important from a public welfare perspective, call into question the adequacy of the public welfare protection provided by the current standard. Based on the evaluation presented in this PA, staff concludes that consideration should be given to revising the standard to provide increased public welfare protection. CASAC agreed with this conclusion.

Given this conclusion regarding the adequacy of the current standard, staff also reaches conclusions for the Administrator's consideration regarding the elements of potential alternative secondary O₃ standards that could be supported by the available evidence and exposure/risk information. Any such potential alternative standards should protect public welfare against known or anticipated adverse environmental effects associated with exposures to O₃, alone or in combination with related photochemical oxidants, taking into account the available scientific evidence and exposure/risk information. In reaching conclusions about the range of potential alternative standards appropriate for consideration, staff is mindful that the Act requires secondary standards that are at "a level of air quality the attainment and maintenance of which" in the "judgment of the Administrator", are "requisite to protect public welfare from any known or anticipated adverse effects". In setting a secondary standard that is "requisite" to protect public welfare, the EPA's task is to establish standards that are neither more nor less stringent

than necessary. Thus, the Act does not require that NAAQS be set at zero-risk levels, but rather at levels that reduce risk sufficiently to protect public welfare from adverse effects.

The degree of public welfare protection provided by any NAAQS results from the collective impact of the elements of the standard, including the indicator, averaging time, form, and level. Staff's conclusions on each of these elements are summarized below.

- (1) **Indicator:** Staff concludes that it is appropriate to continue to use O₃ as the indicator for a standard that is intended to address welfare effects associated with exposure to O₃, alone or in combination with related photochemical oxidants. Based on the available information, staff concludes that there is no basis for considering an alternative indicator at this time. CASAC concurred with these conclusions.

- (2) **Averaging time and form:** Staff concludes that it is appropriate to consider a revised secondary standard in terms of the cumulative, seasonal, concentration-weighted form, called the W126 index. This is supported by strong scientific evidence that cumulative O₃ exposures drive plant response and can cause reduced tree growth, productivity, and carbon storage; crop yield loss; visible foliar injury; and other welfare effects. With regard to the appropriate form and averaging times, staff reaches the following additional conclusions:
 - (a) It is appropriate to consider the consecutive 3-month period within the O₃ season with the maximum index value as the seasonal period over which to cumulate hourly O₃ exposures. Staff notes that the maximum 3-month period generally coincides with maximum biological activity for most vegetation, making the 3-month duration a suitable surrogate for longer growing seasons.

 - (b) It is appropriate to cumulate daily exposures for the 12-hour period from 8:00 am to 8:00 pm, generally representing the daylight period during the 3-month period identified above.

To the extent the Administrator finds it useful to consider the extent of public welfare protection that might be afforded by a revised primary standard, staff concludes that public welfare protection is appropriately judged through the use of the cumulative, seasonal W126 index form, as described above. CASAC agreed that it was

appropriate to establish a revised form of the secondary standard and that the W126 index was a more biologically relevant form than the current form of the standard.

With regard to the number of years over which it is appropriate to average, staff notes that there is limited information to discern between the level of protection provided by an annual form or a 3-year average form of a W126 standard for crop yield loss or foliar injury, and that a multiple year form could be considered to provide a more consistent target level of protection for this endpoint. Such a form might also be appropriate for a standard intended to achieve the desired level of protection from longer-term effects, including those associated with potential compounding of biomass loss over multiple years. Further, such a form might be concluded to contribute to greater stability in air quality management programs, and thus, greater effectiveness in achieving the desired level of public welfare protection, than that that might result from a single year form. Therefore, to the extent that the greater emphasis is placed on protecting against effects associated with multi-year exposures and maintaining more year-to-year stability of public welfare protection, staff concludes that it is appropriate to consider a secondary standard form that averages the seasonal W126 index values across three consecutive years. CASAC recommended that if a 3-year averaging period is selected, the level should be set lower than if a 1-year averaging period is selected in order to provide greater protection for annual crops and against cumulative effects on perennial species.

- (3) **Level:** With regard to level for a revised secondary standard, staff concludes that it is appropriate to give consideration to a range of levels from 17 to 7 ppm-hrs, expressed in terms of the W126 index. In so doing, we primarily consider the evidence- and exposure/risk-based information for cumulative seasonal O₃ exposures represented by W126 index values (including those represented by the WREA average W126 scenarios) associated with biomass loss in studied tree species, both in and outside areas that have been afforded special protections. We note CASAC's advice that a 6% median RBL is unacceptably high, and that the 2% median RBL is an important benchmark to consider. We further note that for the lower level of 7 ppm-hrs the median tree species biomass loss is at or below 2% and that for the upper level of 17 ppm-hrs the median tree biomass loss is below 6%.⁶ We also note that a level of 17 ppm-hrs reduces the percent of total area having weighted RBL greater than 2% to

⁶ We note that a W126 index value of 19 ppm-hrs is estimated to result in a median RBL value of 6%.

0.2%, and reduces the number of Class I areas with weighted RBL greater than 2% to 2 of the 145 assessed nationally protected Class I areas.

We also note that tree biomass loss can be an indicator of more significant ecosystem-wide effects which might reasonably be concluded to be significant to public welfare. For example, when it occurs over multiple years at a sufficient magnitude, biomass loss is linked to an array of effects on other ecosystem-level processes such as nutrient and water cycles, changes in above and below ground communities, and carbon storage and air pollution removal. These effects have the potential to be adverse to the public welfare.

In addition, a range of levels from 17 to 7 ppm-hrs would protect at least half of the crop species from a yield loss of greater than 5%. A W126 level of 10 ppm-hrs or less would also reduce prevalence of visible foliar injury and promote appreciable gains in carbon sequestration and pollutant removal.

CASAC recommended a range of W126 values of 15 ppm-hrs to 7 ppm-hrs and did not recommend levels above 15 ppm-hrs. CASAC noted that a level of 15 ppm-hrs is requisite to protect median crop yield loss to no more than 5% and that a level below 10 ppm-hrs is required to reduce foliar injury prevalence. CASAC also noted that a W126 level of 7 ppm-hrs limits median relative biomass loss for trees to no greater than 2% and offers additional protection against crop yield loss and foliar injury.

The Administrator's consideration of a particular level within the range of 17 to 7 ppm-hrs would reflect judgments as to the appropriate weight to be given to various aspects of the scientific evidence and exposure/risk information, with appropriate weight given to important uncertainties and with particular consideration of the support provided by this evidence and information regarding the protection of public welfare. To the extent the Administrator finds it useful to consider the extent of public welfare protection that might be afforded by a revised primary standard, staff concludes that public welfare protection is appropriately judged through the use of the cumulative seasonal W126-based metric.