



State of Ohio Environmental Protection Agency

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DEC 5 2008

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Ms. Cheryl L. Newton
Deputy Director
Air and Radiation Division
U.S. EPA, Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604

Re: Public hearing results for the fine particulate (PM2.5) attainment demonstration SIP for the State of Ohio

Dear Deputy Director Newton:

I am writing to provide the results of the public hearing and comment process for the State of Ohio request for approval of the attainment demonstration with respect to the 1997 PM2.5 standard. This submittal completes the package initially submitted on July 16, 2008. The public hearings for this package were held on September 16, 2008 in Hilliard, Ohio and September 17, 2008 in Twinsburg, Ohio.

Attendance was minimal at both hearings. Representatives from the Mid-Ohio Regional Planning Organization (MORPC), Ohio Environmental Council, Sierra Club and several citizens were present. Oral comments were given by the citizens and the above mentioned organizations. Enclosed is a copy of the public notices, public hearing transcript, comments and State responses.

I ask that U.S. EPA complete the review of this package and take final action on the attainment demonstration SIP approval request for the State of Ohio in a timely manner.

I have been encouraged by the cooperation and willingness of our staffs to work together to address Ohio's PM_{2.5} nonattainment problems. If you have any questions concerning this submittal, please feel free to contact Carolina Prado in the Division of Air Pollution Control at (614) 644-2310

Sincerely,

Robert Hodanbosi, Chief
Division of Air Pollution Control

cc: Carolina Prado, DAPC

Enclosures

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

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Division of Air Pollution Control

**Response to Comments
State of Ohio Fine Particulate (PM_{2.5})
State Implementation Plan for Ohio's Nonattainment Areas**

Agency Contact for this Package

Division Contact: (Carolina Prado, Division of Air Pollution Control, 614-644-2310, Carolina.Prado@epa.state.oh.us)

Ohio EPA held public hearings on September 16 and 17, 2008, regarding the attainment demonstration for the annual fine particulate (PM_{2.5}) standard in the State of Ohio. This document summarizes the comments and questions received at the public hearings and/or during the associated comment period, which ended on September 18, 2008.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. The name of the commenter follows the comment in parentheses.

General/Overall Concerns

Comment 1: The commenter did not agree with the format of the hearing, how it was advertised and the deadline for comments. (B. Lund)

Response 1: Although public involvement is encouraged in all areas of environmental protection, there are several points at which citizen input is especially valuable. For example, public hearings allow citizens an opportunity to provide comments on the official record.

By law, Ohio EPA is required to advertise public hearings in the legal records section of newspapers. This public notice appeared in all the major newspapers in the entire State thirty days prior to the hearing date. As an added courtesy,

a news release was sent to every media outlet in the State two weeks before to the hearing date. Ohio EPA cannot require or control which new stories are published.

Comment 2: **The commenter expressed concern that Ohio EPA proposed control strategies will not be sufficient to bring Columbus into attainment by 2010. If the current 2008 PM_{2.5} monitoring data does not indicate improvement, will implanting only national controls be enough to attain the standard, with reasonable cushion to allow variations in meteorology and modeling deficiencies? (D. Clay; MORPC.)**

Response 2: Based on current PM_{2.5} monitoring data, from three monitors in Franklin Co., it is expected to see continued improvement in air quality in the Columbus area by the 2010 attainment date. The current 3-year average (2005-2007) shows design values under the air quality standard (15.0 µg/m³). Data from 2008 (January to August data) compared to data from 2006 and 2007, for the same period, also shows a decline in PM_{2.5} concentrations. The monitoring data suggests that the Columbus area will continue to have air quality improvements, reaching the attainment date with a reasonable cushion to allow variations.

Comment 3: **LADCO's Technical Support Document modeling rounds four and five indicate a 2009 future year design values, in the Fairgrounds monitor (Franklin Co.), of 14.6 µg/m³ and 12.9 µg/m³, respectively. Which modeling round is Ohio EPA using to support its PM_{2.5} SIP strategy? What are the differences in the modeling assumptions in the two rounds? (D. Clay; MORPC.)**

Response 3: Extensive photochemical modeling has been conducted by LADCO to address PM_{2.5}, as well as ozone and haze in Ohio. A comprehensive Technical Support Document (TSD) describes the modeling parameters, the testing of the model itself, and the predicted reductions in these pollutants in future years. An electronic version of the document is available at http://ladco.org/Technical_Support_Document.html. Section 3 of the TSD describes the model and inputs, and Section 4 provides the modeled future year PM_{2.5} levels for the state.

LADCO used two base years in the modeling analyses: 2002 (Round 4/Round K) and 2005 (Round 5/Round M). Of the two modeling scenarios, Round 5 is a more recent version than Round 4. Other upgrades to the model and inventory were also made in the Round 5 modeling (see below for a summary and section 3.3 of the TSD for more details).

Base M/Round 5 (2005)	Base K/Round 4 (2002)
- CAMx v4.50	- CAMx 4.30
- CB05 gas phase chemistry	- CB-IV with updated gas-phase chemistry
- SOA chemistry updates	- No SOA chemistry updates
- AERMOD dry deposition scheme	- Wesley-based dry deposition
- ISORROPIA inorganic chemistry	- ISORROPIA inorganic chemistry
- SOAP organic chemistry	- SOAP organic chemistry
- RADM aqueous phase chemistry	- RADM aqueous phase chemistry
- PPM horizontal transport	- PPM horizontal transport

In addition, the models used different sets of meteorological data for the two modeling scenarios. The relationship between meteorology and $PM_{2.5}$ is not well understood, but it likely influences $PM_{2.5}$. Overall the models show good agreement in magnitude of $PM_{2.5}$ mass, but some species are overestimated and others are underestimated. In 2002, sulfates had good agreement, but nitrates were overestimated in winter. In 2005, sulfates are underestimated but nitrates had good agreement. In both years, Organic Carbon (OC) is still largely underestimated.

While both 2005 and 2002 are considered "SIP quality," which base year used is a policy decision. Ohio EPA has chosen to use the Round 5, 2005 emissions inventory since it is more recent and more accurately reflects actual conditions and emissions changes. Also the 2005 modeling base year predicts more closely the actual annual averages from the air quality monitors.

The Round 5 modeling demonstrated that all monitors with the exception of the Tikhon monitor (Cuyahoga Co.) show attainment by the 2010 attainment date.

Comment 4: It is our understanding that these future-year modeling runs take into account substantial near-term SO₂ and NO_x reductions through CAIR. If models show that the SIP does not demonstrate attainment for central Ohio without CAIR included, what are the next steps to be taken by USEPA and OEPA respectively? How does Ohio proceed with a SIP that accounts for a rule that no longer exists? (D. Clay; MORPC.)

Response 4: The U.S. Court of Appeals for the District of Columbia Circuit overturned Clean Air Interstate Rule (CAIR) last July; however this decision is not final yet. Many states like Ohio are waiting for the final court mandate to plan future actions if necessary.

In the meantime, Ohio EPA is evaluating options in lieu of CAIR. Ohio EPA is working with LADCO to remodel the 2009, 2012, and 2018 PM_{2.5} projections without the reductions expected from CAIR.

Comment 5: Ohio EPA has made good strides in efforts to address the PM_{2.5} issue. The Agency's Clean School Bus Retrofit Fund, the Department of Development's Diesel Emission Reduction Grant program, and the USEPA's diesel clean up grant program have made a difference. Enforcement actions will also contribute to reaching attainment. Federal actions taken to reach attainment like the Tier 2 emission standards for mobile sources, the new diesel rule, the clean air non-road diesel rule, the low sulfur gasoline and diesel fuel, and CAIR. However, the data is close in meeting the standard and one grant program not funded and a slight increase in emission from manufacturing sector, could bring Ohio back to nonattainment. (D. Celebrezze; OEC.)

Response 5: Ohio EPA appreciates and understands the concerns raised in the comment.

Comment 6: A significant portion of Ohio's plan for attainment is dependent upon the currently vacated Clean Air Interstate Rule (CAIR). If a whole or partial reinstatement of the rule is unsuccessful, Ohio EPA should pursue whatever measures are necessary to require under state law the SO₂ and NO_x emissions

reductions that were called for in CAIR. Ohio EPA's SIP must meet the requirement for RACT, with or without CAIR. (J. Paul; RAPCA.)

Response 6: Ohio EPA agrees with the comment. In the meantime, Ohio EPA is still evaluating the overturned CAIR program. Ohio EPA is working with LADCO to remodel the 2009, 2012, and 2018 PM_{2.5} projections without the reductions expected from CAIR.

Please note that all NOx RACT rules in place.

Comment 7: The commenter expressed concern in regards to the effects of Ohio Senate Bill 265, which exempts new sources less than 10 tpy from the Ohio requirement for Best Available Technology (BAT) and requires that BAT rules be promulgated for minor source categories greater than 10 tpy. Ohio must take measures necessary to assure that new sources of PM_{2.5} installed in nonattainment areas do not interfere with attainment of the standard. Case-by-case BAT determinations on new minor sources of PM_{2.5} are an essential component of an attainment plan. (J. Paul; RAPCA.)

Response 7: Ohio EPA believes that this comment does not address the attainment demonstration SIP document for the annual fine particulate (PM_{2.5}) standard in the State of Ohio, which was the intent of this public hearing.

However, it is important to mention that Ohio EPA processes approximately 1,100 installation permit applications each year. Minor sources (non-Title V facilities) are required to obtain an installation permit for each air contaminant source. Ohio EPA has a stringent reviewing process and issues permits only if the applicant facility has adequately complied with all permitting requirements, including not interfering with achievement of the NAAQS.

Upon receipt of the PTIO application, Ohio EPA reviews the application to determine if it is complete. Typically, a company is notified of whether an application is complete within 14 days after submitting their application.

Comment 8: **The commenter stated concern about the public hearing and PM_{2.5} proceedings since the state implementation plan intent is to reduce particulate emissions in nonattainment areas across Ohio, yet at the same time the Ohio EPA issued a draft air permit for the Beard Liquid Coal facility in Columbiana and Jefferson Counties and refrained to regulate PM_{2.5} emission at all. (Nachy Kanfer; Sierra Club National Coal Campaign in Ohio.)**

Response 8: Ohio EPA believes that this comment does not address the attainment demonstration SIP document for the annual fine particulate (PM_{2.5}) standard in the State of Ohio, which was the intent of this public hearing.

However, when issuing a draft permit or final permit to any facility in Ohio, Ohio EPA has a stringent reviewing process and issues installation permits only if the applicant has adequately complied with all permitting requirements, including not interfering with achievement of the NAAQS.

For some sources, Ohio EPA is required to issue a permit as a draft action (like in the case of Beard Liquid Coal facility). For draft actions, Ohio EPA provides a notice in the local paper regarding the proposed installation. This notice provides for a 30-day public comment period. A public meeting may be held as part of this process. If no comments are received, then Ohio EPA issues a final permit. Otherwise the permit is either modified and reissued as a draft, or keep final action.

All the steps explained above, ensures that any new sources (minor or major sources) of PM_{2.5} (and other air pollutants) installed in nonattainment areas do not interfere with Ohio's attainment demonstrations and goals.

Comment 9: **Monitoring data indicates attainment in Ohio is likely without additional emission reductions from the manufacturing sector. The levels of ambient PM_{2.5} measured at monitors in Ohio nonattainment areas show significant and steady reductions since the 1999 baseline year with the exception of 2005. Incidents in 2005 reportedly caused a shortage of low sulfur coal available to regional electric generating units. These and other exceptional events included in the "PM_{2.5}**

exceptional events study findings: Cleveland, Ohio: 2004-2007” (Enviroplan Consulting, 2008) should be used to eliminate outlier data not representative of normal ambient air quality conditions. (D. McWilliams; Squire, Sanders & Dempsey LLP.)

Response 9:

A review of individual high PM_{2.5} days is helpful in developing a conceptual model to guide SIP planning. Ohio EPA together with their Regional Planning Organization (LADCO) and other states members (Data Analysis Workgroup), have completed significant work in this area. The results show the importance of meteorology (especially, stagnant air masses), regional impacts, and, in a few locations, local sources.

Enviroplan's analysis is largely based on three wildfire transport events: May 24, 2007, Sept 6, 2007, and Sept 21, 2007. From the AIRNOW PM_{2.5} plots for these three days, it appear to be large areas of elevated concentrations (moderate AQI) with pockets of higher concentrations (unhealthy for sensitive groups [USG] AQI). LADCO has not concluded the USG AQI locations are necessarily indicative of a regional event.

Moreover, USEPA's Interim Air Quality Policy on Wildland and Prescribed Fires (<http://www.epa.gov/ttn/oarpg/t1/memoranda/firefni.pdf>) provides for the exclusion of fire events in the designation process, if those events were part of smoke management plan (SMP):

"There are incentives for States/tribes to certify to EPA that they have adopted and are implementing a SMP that includes the basic components identified in this policy. The main incentive is that, as long as fires do not cause or significantly contribute to daily or annual PM_{2.5} and PM₁₀ NAAQS violations, States/tribes may allow participation by burners in the basic SMP to be voluntary and the SMP does not have to be adopted into the SIP. Another incentive is the commitment by EPA to use its discretion not to redesignate an area as nonattainment when fires cause or significantly contribute (see section VII.B.) to PM NAAQS violations, if the State/tribe required those fires to be conducted within a basic SMP. Rather, if fires cause or significantly contribute violations, States/tribes will be required to review the

adequacy of the SMP, in cooperation with wildland owners/managers, and make appropriate improvements."

At this time Ohio EPA has not implemented a SMP.

Comment 10: **Ohio EPA should use the Clean Data Policy to reduce the burden of additional SIP controls on Ohio manufacturers (D. McWilliams; Squire, Sanders & Dempsey LLP.)**

Response 10: Ohio EPA appreciates the comment.

It is important to clarify that for those areas that have data indicating potential attainment of the PM_{2.5} standard; USEPA has established a "Clean Data Policy" which permits a state to submit data that demonstrates attainment of the standard. If USEPA concurs that the region/state has in fact attained the standard, additional time is provided to formally seek redesignation as an attainment area, and submit a "maintenance" plan to demonstrate how the area will maintain the standard for 10 additional years. The region/state would be relieved of needing to produce an attainment SIP by the April, 2008 deadline as well.

However, on July 2008, Ohio EPA already submitted the PM_{2.5} attainment demonstration SIP, recognizing that the State would meet the current applicable PM_{2.5} standards and thus submitted an attainment plan that will implement measures to reduce PM_{2.5} levels lower than the 1997 annual standard. Ohio EPA's staff has already developed the SIP and should meet the attainment date without difficulty.

Comment 11: **Ohio EPA should not impose additional burdens on the manufacturing sector to achieve the emission reductions that CAIR would have achieved from electric generating units. (D. McWilliams; Squire, Sanders & Dempsey LLP.)**

Response 11: Ohio EPA is required to fulfill all Clean Air Act (CAA) requirements. Moreover, the 1990 CAA Amendments intended to intensify air pollution control efforts across the nation. One of the primary goals of the Amendments was an overhaul of the planning provisions for those areas not currently meeting the National Ambient Air Quality Standards

(NAAQS). The CAA identifies specific emissions reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to attain or to meet interim milestones.

From the above, Ohio EPA must take any reasonable and best available measures and controls to comply with all CAA mandates. The U.S. Court of Appeals for the District of Columbia Circuit overturned CAIR last July; however, this decision is not final yet, and states like Ohio are waiting for the final court mandate in order to plan future actions if necessary. These future actions may include additional regulation of Ohio's manufacturing sector.

Comment 12: **To the extent that refined modeling indicates that Ohio EPA needs the NO_x and SO₂ emission reductions that would have come from CAIR to demonstrate PM_{2.5} attainment, the Ohio Steel Group encourages Ohio EPA to focus on securing emission reductions from EGUs that were subject to CAIR reductions. (D. McWilliams; Squire, Sanders & Dempsey LLP.)**

Response 12: The CAIR vacancy decision is not yet final. While waiting for the final decision on the CAIR vacatur, Ohio EPA is working with its Regional Planning Organization to remodel the 2009, 2012, and 2018 PM_{2.5} projections without the reductions expected from CAIR. When these analyses are finished, Ohio EPA will have a better understanding of "no-CAIR" scenario implications and what emission reductions may be needed from EGUs and other sources in order to demonstrate attainment for the PM_{2.5} standard.

Comment 13: **Interim measures should be taken to keep CAIR emission reductions in place for the 2010 PM_{2.5} attainment deadline. The Ohio Steel Group supports the extension of the NO_x Budget Trading Rule in its current form until a lawful CAIR program is in place. The Ohio Steel Group members constitute many of the non-EGUs Budget Units that would be affected by continuing the NO_x Budget Trading Rule. (D. McWilliams; Squire, Sanders & Dempsey LLP.)**

Response 13: Ohio EPA agrees with the comment. The NO_x Budget Trading Program, implemented through Ohio Administrative Code Chapter 3745-15, is still effective in the state.

Comment 14: Pending allegations of noncompliance do not belong in the PM_{2.5} SIP. Ohio EPA should not rely on pending allegations of noncompliance for anticipated emission reductions. Generally, pending enforcement actions are an unreliable source of emission reductions because, much like proposed rules, they represent only the agency's position and not the final determination of an appropriate action. Settlement and injunctive relief measures are even less reliable than proposed rules because the final determination is not within the agency's control. (D. McWilliams; Squire, Sanders & Dempsey LLP.)

Response 14: Ohio EPA appreciates and understands the concerns raised in the comment.

Comment 15: Emission reductions to achieve ambient air quality standards should not be driven by the proximity of a source to a particular monitor. The objective of a SIP should be improving the region's ambient air quality, not to target reductions for those who happen to be closer to a monitoring location like Mittal, Inc. steel plant. With the downward monitor data trends and the anticipated emission reductions from NO_x RACT and a CAIR equivalent program for EGUs, Ohio should wait to see how the monitor data looks before imposing additional studies or burdens on any facility in the manufacturing sector. (D. McWilliams; Squire, Sanders & Dempsey LLP.)

Response 15: Ohio EPA understand the concerns raised in the comment. zHowever, the Cleveland Area has been designated as an area that does not attain the PM_{2.5} NAAQS. Consequently, the Ohio EPA has developed a SIP to address PM_{2.5} non-attainment in the Cleveland area. A control strategy is a necessary part of this SIP.

The control strategy, if additional emission reductions are necessary, is likely to consider emission controls at local sources that contribute to high PM_{2.5} levels. These local

sources include a steel mill plant, operated by Mittal Steel, Inc. This facility may be a contributor because of its proximity to the PM_{2.5} monitors showing non-attainment. The objectives of a study on this facility are to characterize the PM_{2.5} and metal emissions from all of the processes at the steel plant, to identify technically feasible control measures (including increased or improved monitoring for PM_{2.5} and metals emissions), and to estimate potential costs of additional control.

Comment 16: **The Ohio Steel Group applauds Ohio EPA's recognition that mobile sources are a significant contributor to PM_{2.5} in attainment and nonattainment areas. National controls are expected to significantly reduce emissions from mobile sources, therefore, Ohio EPA should not be looking to the manufacturing sector for additional studies or emission reductions. Ohio EPA is encouraged to tread lightly in the current economic climate and to impose burdens only when necessary to achieve health based standards and only when fully supported by the available data. (D. McWilliams; Squire, Sanders & Dempsey LLP.)**

Response 16: Diesel engines play a vital role in key industry sectors such as goods movement, public transportation, construction, and agriculture. A unique combination of efficiency, power, reliability, and durability make diesel the technology of choice for these sectors. However, the durability of the technology does not lend itself to rapid fleet turnover and investment in new equipment that meets more stringent environmental standards. Because of this, the full air quality benefits of the very stringent new engine emission standards in the US 2007 Diesel Rule ("Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements.") and the Nonroad Diesel Rule ("Clean Air Nonroad Diesel Rule.") will likely take decades to achieve. Further, the regulatory authority of USEPA and states to address the existing fleet of over 11 million diesel engines is rather limited.

Moreover, Ohio EPA must take any reasonable and best available measures and controls to comply with all CAA mandates. These measures and controls may include additional regulations on the manufacturing sector, as well as other sectors of Ohio's economy.

Comment 17: **The commenter stated that while cleaning up the environment was a critical issue in the 70's and was something that needed to be done to protect the health and wellbeing of people and future generations, today the cost and burden are too great for the observed returns and the benefits derived from these continually tightening standards dwindle to the point of insignificance. (L. Solak)**

Response 17: Ohio EPA is required by law to fulfill all CAA requirements. Moreover, the 1990 CAA Amendments intended to intensify air pollution control efforts across the nation. One of the primary goals of the Amendments was an overhaul of the planning provisions for those areas not currently meeting the NAAQS. The CAA identifies specific emissions reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to attain or to meet interim milestones.

Comment 18: **The commenters asked to clarify the extent of the contingency measures proposed in the PM_{2.5} SIP. (K. Eckmeyer and L. Solak)**

Response 18: The Northeast Ohio Areawide Coordinating Agency's (NOACA) Air Quality Public Advisory Task Force reviewed a series of emission reduction strategies and the potential impact on air pollution precursors emitted by mobile and stationary sources. NOACA recommended some strategies, to Ohio EPA, to be included in the PM_{2.5} SIP.

Ohio EPA may consider, if additional reduction measures are required, the following contingency measures to attain the annual PM_{2.5} standard:

- Diesel reduction emission strategies:
Mobile sources (on-road and off-road), from both gasoline and diesel vehicles, currently account for a significant fraction of ambient PM_{2.5}, typically from 30 to 60% of PM_{2.5} mass in urban areas in the Midwest. Urban PM_{2.5} is typically about 33% ammonium sulfate, 33% ammonium nitrate and elemental carbon, and 33% organic carbon. Mobile sources contribute about 50% of the ammonium nitrate and about 50% of the organic

carbon (OC). When examining the allocation of OC, it appears that high-emitting gasoline-powered vehicles account for about 50% of the OC mass attributed to vehicles. Their contribution to ammonium nitrate is similar in magnitude to their contribution to OC. Diesel is typically about 15% of PM_{2.5} mass, and about 20% of OC mass. Consequently, controls for both gasoline-powered cars and diesel-powered trucks and non-road equipment will be considered if additional reduction measures are required.

- Outdoor wood-fired boilers regulations:
Ohio EPA has received several smoke and nuisance complaints from the use of outdoor wood-fired boilers. The agency might consider regulation on these units reducing or avoiding health impacts.
- Charbroiling operations at restaurant:
Charbroiling and grilling of meats creates particulate matter; the higher the fat content, the greater the emissions as the fat strikes the heating element. Chain-driven charbroiling of meats at restaurants accounts for only 10% of the PM_{2.5} emissions from the restaurant sector. However, chain-driven charbroiling is one of the few grilling mechanisms for which a cost-effective control technology has been devised, that being a catalytic oxidizer to control PM_{2.5} emissions. Control technologies are also available for other grilling situations, although the cost is higher. Using a catalytic oxidizer, emissions average 1.29 lb. PM per 1,000 lb. of hamburger, for an 83% reduction from the high-end estimates of uncontrolled emissions.
- NOx Reasonable Available Control Technology for Nitrogen Oxides (NOx RACT) rules (statewide):
These rules are intended to reduce emissions of nitrogen oxide (NOx) from stationary sources (i.e., boilers, combustion turbines, and internal combustion engines).

Currently Ohio EPA has NOx RACT rules in place which specifically apply to the eight "moderate" ozone nonattainment counties in the Cleveland/Akron, Ohio metropolitan area (i.e., Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit Counties) and regulate NOx emissions from existing stationary combustion sources (industrial, commercial, and

institutional (ICI) boilers, stationary combustion turbines and stationary internal combustion engines). In addition, the rules apply state-wide to any new or modified source. Ohio EPA will continue to evaluate and develop rules, as necessary, in order to meet the NAAQS.

Comment 19: **Prescribed burn activity must be assessed as a possible contributor to PM_{2.5} air quality problems, and Ohio EPA should determine the impact of current permitted prescribed burns on regional PM_{2.5}. (D. Celebrezze; OEC and D. Maywhoor; Buckeye Forest Council.)**

Response 19: Ohio EPA's Regional Planning Organization (LADCO) developed a 2001, 2002, and 2003 fire emissions inventory for eight Midwest States (Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Minnesota, and Missouri), including emissions from wild fires, prescribed fires, and agricultural burns. Projected emissions were also developed for 2010 and 2018 assuming "no smoke management" and "optimal smoke management" scenarios. An early model sensitivity run showed very little difference in modeled PM_{2.5} concentrations. Consequently, the fire emissions were not included in subsequent modeling runs (i.e., they were not in the Base K or Base M modeling inventories), and; therefore, were not included in the PM_{2.5} SIP.

Comment 20: **The commenter asked about the basis on what Ohio EPA issued permits to the Division of Forestry (ODNR) to perform prescribed burns. (D. Maywhoor; Buckeye Forest Council.)**

Response 20: Ohio EPA believes that this comment does not address the attainment demonstration SIP document for the annual fine particulate (PM_{2.5}) standard in the State of Ohio, which was the intent of this public hearing.

Ohio Administrative Code (OAC) Chapter 3745-19, "Open Burning Standards", establish that open burning will be allowed for recognized horticultural, silvicultural, range, or wildlife management practices, upon receipt of written permission from the Ohio EPA, in accordance with paragraph (A) of OAC rule 3745-19-05. Prescribed fires are considered recognized silvicultural management practices.

An application for permission to open burn has to be submitted in writing at least ten working days before the fire is to be set. This application should contain information as required by the Ohio EPA. Moreover, permission to open burn might not be granted unless the applicant demonstrates to the satisfaction of the Ohio EPA that open burning is necessary to the public interest; will be conducted in a time, place, and manner as to minimize the emission of air contaminants; and will have no serious detrimental effect upon adjacent properties or the occupants thereof. The Ohio EPA may impose such conditions as may be necessary to accomplish the purpose of OAC Chapter 3745-19.

In addition, any open burning practice is not allowed when air pollution warnings, alerts or emergencies are in effect. Moreover, fires cannot obscure visibility for roads, railroad tracks or air fields.

Comment 21: **The commenter asked what pre and post studies have been and will be done to assess the level of particulate matter released by previous and planned prescribed burns. (D. Maywhoor; Buckeye Forest Council.)**

Response 21: Ohio EPA believes that this comment does not address the attainment demonstration SIP document for the annual fine particulate (PM_{2.5}) standard in the State of Ohio, which was the intent of this public hearing.

Ohio EPA has not developed any pre or post studies on the level of PM emitted after prescribed fires take place in Ohio. However, Ohio EPA is expecting to receive the results of a biomass burning impacts on air quality (in the upper Midwest) study from Colorado State University. These results will give a better understanding on the effects of prescribed fires as well as other type of open burning operations.

Comment 22: **The commenter asked what were the near and long term air quality impacts from the release of particulate matter as a result of burns. (D. Maywhoor; Buckeye Forest Council.)**

Response 22: Ohio EPA believes that this comment does not address the attainment demonstration SIP document for the annual fine

particulate (PM_{2.5}) standard in the State of Ohio, which was the intent of this public hearing.

The smoke from any wildland fire can be a significant source of air pollution because fire is a natural combustion process that releases air pollutant emissions. The amount and size of emissions depends on the size and intensity of the wildfire.

It is important to note that while prescribed fires do impact air quality in the short-term, they help reduce the risk of more long-term impacts from larger, more intense wildfires that can burn for longer periods. These uncontrolled wildfires typically cause greater air pollutant emission levels and occur under unfavorable smoke dispersion conditions, which ultimately result in more extreme and widespread air quality impacts.

Comment 23: **The commenter asked about Ohio EPA's actions to protect Ohio citizens from particulate matter released during prescribed burns. (D. Maywhoor; Buckeye Forest Council.)**

Response 23: Ohio EPA believes that this comment does not address the attainment demonstration SIP document for the annual fine particulate (PM_{2.5}) standard in the State of Ohio, which was the intent of this public hearing.

After receiving Ohio EPA's permission to open burn (for recognized horticultural, silvicultural, range, or wildlife management practices) and several months in advance to the actual open burning activity, fire managers are requested to publish a public notification in local newspapers (where the fires will take place) providing, Ohio citizens, a tentative prescribed fire schedule. This notification also suggests citizens to send their contact information (i.e. like telephone numbers) to the organization/agency that is planning to burn, so they can be contacted when the actual burn takes place. This process allows citizens to stay away from areas where the prescribed fire will take place.

* End of comments *