

Responses to Significant Comments on the State and Tribal
Designation Recommendations for the 2015 Ozone National
Ambient Air Quality Standards (NAAQS)

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List of Acronyms

CAA	Clean Air Act
CAMx	Comprehensive Air Quality Model with Extensions
CBSA	Core Based Statistical Areas
CFR	Code of Federal Regulations
CMSA	Combined Metropolitan Statistical Area
CSA	Combined Statistical Area
CSPAR	Cross-state Air Pollution Rule
DFW	Dallas-Fort Worth, Texas
EE	Exceptional Events
EGU	Electric Generating Unit
EPA	Environmental Protection Agency
FR	Federal Register
HGB	Houston-Galveston-Brazoria, Texas
HYSPLIT	Hybrid Single Particle Lagrangian Integrated Trajectory Model
IEPA	Illinois Environmental Protection Agency
I/M	(Vehicle) Inspection and Maintenance
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
NESHAP	National Emission Standards for Hazardous Air Pollutants
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standard
NEI	National Emissions Inventory
NFR	Notice of Final Rulemaking
NO _x	Oxides of Nitrogen
NSPS	New Source Performance Standards
NSR	New Source Review
NYC	New York City
NYMA	New York Metropolitan (Nonattainment) Area
OAQPS	EPA Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
OTR	Ozone Transport Region
PADEP	Pennsylvania Department of Environmental Protection
PPB	Parts Per Billion
PPM	Parts Per Million
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance/Quality Control
RACT	Reasonably Available Control Technology
SIP	State Implementation Plan
TCEQ	Texas Commission on Environmental Quality
TPY	Tons per Year
TSD	Technical Support Document
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

1.0 Introduction

This document, together with the preamble to the final rule, and the Technical Support Documents (TSDs) for the designations, presents the responses of the Environmental Protection Agency (EPA) to the significant comments we received on our proposed designations. The responses presented in this document are intended to augment the responses to comments that appear in the preamble to the final rule and the TSD or to address comments not discussed in those documents.

2.0 Background

On October 1, 2015, the EPA promulgated revised primary and secondary ozone national ambient air quality standards (NAAQS (80 FR 6592, October 26, 2015)). In that action, the EPA strengthened both standards to a level of 0.070 parts per million (ppm), while retaining their indicators, averaging times, and forms. The EPA revised the ozone standards based on an integrated assessment of an extensive body of new scientific evidence, which substantially strengthens our knowledge regarding ozone-related health and welfare effects, the results of exposure and risk analyses, the advice of the Clean Air Scientific Advisory Committee and consideration of public comments.

The revised primary standard provides increased protection for children, older adults and people with asthma or other lung diseases, and other at-risk populations against an array of adverse health effects including lung function, increased respiratory symptoms and pulmonary inflammation and asthma exacerbations; effects that contribute to emergency department visits or hospital admissions; and mortality. The revised secondary standard provides protection of natural forests from adverse growth-related effects and is expected to provide increased protection from other effects of potential public welfare significance, including crop yield loss and visible foliar injury.

On November 6, 2017, the EPA issued final designations for the 2015 NAAQS for ozone for most areas in the United States (U.S.). Specifically, the Agency found that most areas in the country met the standards and designated those areas, including 2,646 counties, two tribal areas and five territories, “attainment/unclassifiable.” This represented about 85 percent of the counties in the U.S. The EPA also designated three counties in the state of Washington as “unclassifiable”, because there was not enough data to calculate a 3-year ozone design value.

On December 22, 2017, the EPA responded to state and tribal recommendations by indicating the anticipated area designations for the portions of the country not already designated for the 2015 ozone standards. These responses started a 120-day period for states and tribes to provide additional information before the EPA determines the final designations. The EPA also opened a 30-day comment period for the public to provide input on these designations before they are finalized. Following are summaries of significant comments received on the 2015 ozone designation recommendations and the EPA’s responses to those comments.

3.0 Responses to Significant Comments on the State and Tribal Designation Recommendations for the 2015 Ozone NAAQS

The following sections address the state, tribal, and public comments received by the EPA on the state and tribal ozone designation recommendations for the 2015 Ozone NAAQS. Comment summaries and responses are presented below. Comments and responses addressing general issues are presented first followed by area-specific comments and responses. The EPA has provided additional detail for some nonattainment areas in the TSD for that area. Commenters can find the TSDs in the electronic docket for this action (www.regulations.gov, docket number EPA-HQ-OAR-2017-0548) and at the EPA's Ozone Designations Web Page (www.epa.gov/ozone-designations).

3.1 General Issues

3.1.1 Super-Regional Areas

Comment: Several commenters noted the decision to sharply limit the extent of the nonattainment areas despite requests from states most affected by unhealthy ozone like Connecticut, New Jersey and Delaware is flawed. They suggested that the EPA should review and reconsider this decision to define this nonattainment area so narrowly.

EPA Response: The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any “nearby” area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily “nearby” but contribute to nonattainment through long-range transport. The Clean Air Act (CAA) has several separate provisions in the Act to address this phenomenon. Section 110(a)(2)(D) requires states to address ozone transport that contributes to a violation of the NAAQS in another State. In addition, section 184, creates the northeast ozone transport region and also grants EPA authority to establish additional transport regions, as appropriate. Finally, we note that the approach taken by EPA is consistent with the approach Congress specified for Serious and above areas for the 1-hour NAAQS, where in section 107(d)(4)(A), Congress set the Consolidated Metropolitan Statistical Area (CMSA) boundaries as the presumptive boundaries of the nonattainment area. In *Catawba Co. v. EPA*¹, the Court upheld that “contribute” under §107(a)(1)(A) of the CAA does not necessarily mean “any contribution” to nonattainment but rather a *degree of contribution sufficient to deem an area nonattainment*, that is, sufficient enough to warrant designation as nonattainment. “Section 107(d) is ambiguous as to how EPA should measure contribution and *what degree of contribution is sufficient to deem an area nonattainment...*” *Catawba County v. EPA*, 571 F.3d 20, 39 (D.C. Cir. 2009) (Internal citation omitted but with emphasis added). “Thus, reasonably exercising the discretion that Congress delegated to it, EPA interpreted “contribute” to mean “sufficiently contribute,” and then applied the C/MSA presumption and nine-factor test precisely to identify those areas that meet that definition.” *Id.*

EPA's analyses supporting boundaries for individual nonattainment areas are provided in the TSD for the area in question.

Comment: A commenter suggested that upwind areas do not have to participate in regional air quality planning, may attain before downwind areas and contribute insufficiently to emission reductions needed to attain downwind.

¹ *Catawba County v. EPA*, 571 F.3d 20, (D.C. Cir. 2009)

EPA Response: As noted in the previous response, other provisions of the Act address longer-range ozone transport and the designation process requires only that “nearby” areas that contribute to violations of the NAAQS be included as part of the nonattainment area.

Comment: A commenter pointed out that in its proposed designations, the EPA once again refuses to take steps to comprehensively address the causes of ozone pollution. The EPA rejects multiple states’ recommendations to establish large, multi-state nonattainment areas, noting that “other provisions of the [Clean Air Act] address longer range transport of ozone pollution, such as sections 110(a)(2)(D), 126, and 184.” EPA-HQ-OAR-2017-0548-0073 at 2; EPA-HQ-OAR-2017-0548-0106 at 20. Yet EPA has failed to implement those provisions. It has not even provided a complete § 110(a)(2)(D) remedy for the East Coast under the 2008 standard. It has failed to respond to various § 126 petitions and has denied multiple states’ petition to expand the Ozone Transport Region under § 184. It is unlawful and arbitrary for EPA to play this shell game of referring people suffering from high levels of ozone pollution to other statutory provisions, even though no statutory avenue is fully implemented.

EPA Response: The EPA understands the concerns raised by the commenter regarding long range transport. However, as noted in other responses in this document, section 107(d)(1) of the CAA address “nearby” areas that contribute to a violation of the NAAQS. We do not believe that these provisions that focus on “nearby” contribution are the appropriate vehicle for addressing long range transport. The CAA has several separate provisions in the Act to address this phenomenon.

Comment: A commenter suggested that the reasons why the term ‘nearby’ can be extended beyond EPA’s proposed designations; 1) EPA’s modeling shows a larger impact on Connecticut’s ozone from sources in Pennsylvania than those in New Jersey. 2) Trajectories, covering up to two days’ transport, in the TSD show air passes through York, Monroe and Lehigh Counties and other higher nitrogen oxide emitting counties in Pennsylvania on their way to peak ozone violations in Connecticut. 3) States need to be in the same room to plan effective strategies.

EPA Response: The EPA is maintaining its established interpretation of the term “nearby” and continuing the policy of designating as nonattainment all areas violating the ozone NAAQS and any areas in close proximity that are contributing to a violation in another area. Under the designation provision, only “nearby” areas that contribute to the violation must be included as part of the nonattainment area. There are other provisions of the CAA that address longer range transport of ozone pollution, such as sections 110(a)(2)(D), 126, and 184. The phenomenon of ozone transport must be balanced against the need to have smaller areas that can focus on local control measures. In the absence of broad agreement among all affected states to recommend such a large nonattainment area, we do not intend to designate a large nonattainment area and instead intend to adhere to a common-sense interpretation of the term “nearby.” EPA considered, and rejected, similar recommendations in connection with the boundaries for the New York Metro Area under the 2008 ozone NAAQS. At that time, EPA explained that the CAA “does not require that all contributing areas be designated nonattainment, only the nearby areas,” and that “[r]egional strategies, such as those employed in the Ozone Transport Region and EPA’s NO_x SIP Call are needed to address the long-range transport component of ozone nonattainment.” “Area Designations for the 2008 Revised Ozone National Ambient Air Quality Standards” (December 4, 2008), at 4; see *Mississippi Commission on Environmental Quality v. EPA*, 790 F.3d 138, 150-51 (D.C. Cir. 2015). The D.C. Circuit upheld EPA’s approach. *Id.* at 151-53.

Comment: A commenter said the EPA should reconsider its analyses and rely on its authority to designate areas which best account for transport rather than looking to inconsistencies amongst the various state submittals as justification for the status quo.

EPA Response: Conducting a five-factor analysis on the given Combined Statistical Area is the starting point basis for including or excluding any particular county within the CSA. The EPA conducts area-specific analyses to support nonattainment area boundary recommendations and final boundary determinations by evaluating factors such as air quality data, emission and emissions-related data, meteorological data, geography/topography and jurisdictional boundaries. While jurisdictional boundaries and state recommendations – including differences between the affected states’ recommendations -- are taken into consideration, these are not the only bases for nonattainment boundary determinations. For the reasons noted elsewhere, the EPA does not believe the creation of a larger nonattainment area to address pollution transport is the appropriate approach.

Comment: A commenter said including the Philadelphia metropolitan area and upwind counties in the New York Metropolitan (Nonattainment) Area (NYMA) would be more effective because otherwise the Philadelphia area will likely be Marginal and not require any coordination of emission reductions, whereas the NYMA area will have Moderate requirements, which will include coordination and modeling.

EPA Response: A combined New York, Philadelphia area would result in a multistate nonattainment area covering six states (Connecticut, Delaware, Maryland, New Jersey, New York, and Pennsylvania). Managing a nonattainment area with six states agencies would be unwieldy at best. Furthermore, designating this “super-regional” area, covering two CSAs and six states, would not necessarily result in additional emission reductions. All six of the states, in their entirety, are in the Ozone Transport Region, and therefore have planning requirements similar to a Moderate nonattainment area, including Reasonably Available Control Technology (RACT) and New Source Review (NSR). Moreover, all of the states, in their entirety, are subject to the regional transport requirements and are part of the Cross-State Air Pollution Rule(CSPAR) and its Update. Further, all of the areas in the Philadelphia nonattainment area will be subject to the basic nonattainment SIP requirements, as will all of the areas in the New York City nonattainment area.

Comment: A commenter stated that a larger Moderate nonattainment area would have requirements for proof that the controls will actually be useful and sufficient for attainment. Without it, downwind peak areas will repeat the pattern of control, wait for assistance and then failure to attain, when cheaper controls upwind would be more useful and according to EPA’s own modeling, needed.

EPA Response: As noted, the starting point for analyzing the designation of an area is the CSA. The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any “nearby” area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily “nearby” but contribute to nonattainment through long-range transport.

Ozone is a regional pollutant and is readily transported both short and long distances. To determine whether a “nearby” area is contributing to a violation, EPA recommended that states conduct a technical analysis based on a number of factors listed in the designation guidance for the 2015 ozone NAAQS, including air quality data, emissions and emissions-related data, meteorological data, and geography/topography and jurisdictional boundaries. In evaluating whether to modify a state’s designation recommendation, EPA also considered those factors. The justification for including or excluding a county in the nonattainment area is provided in EPA’s TSD for the area. In determining whether an area should be designated nonattainment, EPA did not consider the costs of controls because that is not relevant for determining whether an included area is violating the NAAQS or is a “nearby” area that is contributing to a violation as provided under CAA section 107(d).

The implementation rulemaking for the 2015 ozone NAAQS will address the control obligations for areas designated nonattainment. As EPA considers the required elements of implementation for the 2015 ozone NAAQS, it is our goal to propose approaches that provide flexibility and opportunity for efficiency to the extent such approaches are consistent with the CAA and will not jeopardize expeditious attainment of the public health and welfare goals of the CAA. In addition, we are exploring ways in which the EPA could provide assistance to the states. Finally, to the extent the CAA does not mandate specific control measures, states may consider economic concerns in development of their state implementation plans to address air quality.

Comment: A commenter suggested that the analysis of the ‘nearby’ area for the Philadelphia metro area is not consistent with even this proposal’s usage of ‘nearby’ and will leave major contributing counties out or the area will fail to attain, wasting resources. A better action would be to have a larger nonattainment area that includes the New York City (NYC) and Philadelphia areas along with the counties of York, Lehigh and Monroe and others as needed. This area would provide the incentive for good planning efforts, led by the states, affording an opportunity for attainment in 2024. This is an opportunity to use the Clean Air Act to meet the President’s goal of clean air for everyone and meet the standards in the northeastern corridor of the USA. Without the larger area, areas will implement expensive and possibly unattainable control measures and at worst, not even provide the clean air promised.

EPA Response: As noted, the starting point for the analysis of both areas is their CSAs. The EPA was consistent in its evaluation of the CSAs within each TSD, having a long history of using the CSA to define the starting point for assessing nearby contributing areas. The EPA used a similar approach with the 1997 and 2008 ozone NAAQS. Furthermore, the Clean Air Act Amendments of 1990 set, by operation of law, the boundaries for Serious, Severe, and Extreme nonattainment areas for the 1979 1-hour ozone NAAQS as the metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census).

Ozone is a regional pollutant and is readily transported both short and long distances. To determine whether a “nearby” area is contributing to a violation, EPA recommended that states conduct a technical analysis based on a number of factors listed in the designation guidance for the 2015 ozone NAAQS, including air quality data, emissions and emissions-related data, meteorological data, geography/topography and jurisdictional boundaries. In evaluating whether to modify a state’s designation recommendation, EPA also considered those factors. The EPA did not consider economic impacts because that is not relevant for determining whether an included area is violating the NAAQS or is a “nearby” area that is contributing to a violation as provided under CAA section 107(d).

A combined New York, Philadelphia area would result in a multistate nonattainment area covering six states (Connecticut, Delaware, Maryland, New Jersey, New York, and Pennsylvania). Managing a nonattainment area with six states agencies would be unwieldy at best. Furthermore, designating this “super-regional” area, covering two CSAs and six states, would not necessarily result in additional emission reductions. All six of the states, in their entirety, are in the Ozone Transport Region, and therefore have planning requirements similar to a Moderate nonattainment area, including RACT and NSR. Moreover, all of the states, in their entirety, are subject to the regional transport requirements and are part of the CSPAR and its Update. Further, all of the areas in the Philadelphia nonattainment area will be subject to the basic nonattainment SIP requirements, as will all of the areas in the NYC nonattainment area.

Comment: A commenter said the EPA needs to take the appropriate steps to address the transport of ozone precursors from significant and nearby upwind areas. With this in mind, New Jersey revised their nonattainment boundaries to include areas in their shared CSAs.

EPA Response: The EPA evaluated the entire CSA in making its decisions for both the NYMA and the Philadelphia nonattainment areas. The corresponding TSDs include the factor analysis for all the counties within the CSAs. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any “nearby” area contributing to a violation of the NAAQS. The five-factor analysis is conducted for each county within its corresponding CSA and a determination is made based on the factors to include or exclude the county within the designated area.

As noted, ozone is a regional pollutant and is readily transported both short and long distances. To determine whether a “nearby” area is contributing to a violation, EPA recommended that states conduct a technical analysis based on a number of factors listed in the designation guidance for the 2015 ozone NAAQS, including air quality, emissions and emissions-related data, meteorology, and geography/topography. In evaluating whether to modify a state’s designation recommendation, EPA also considered those factors. The justification for including or excluding nearby areas in a given nonattainment area is provided in EPA’s TSD for the area.

New Jersey’s revised recommendation for their nonattainment area proposed to add the four counties of Pike, Monroe, Northampton and Lehigh, Pennsylvania, to the NYMA area and to add the four counties of Berks, Lebanon, Lancaster and York, Pennsylvania, to the Philadelphia area. The counties of Pike, Monroe, Northampton and Lehigh, Pennsylvania, are in the NYMA CSA (New York-Newark, NY-NJ-CT-PA CSA) and the factor analysis was conducted for these counties in the corresponding TSD. The basis for excluding these counties was based on the factor analysis and their overall contribution to nonattainment within the nonattainment area. These Counties were assessed based on their air quality, emissions and emissions-related data, meteorology, and geography/topography, and they were excluded from the NYMA area. The counties of Lebanon, Lancaster and York, Pennsylvania, are not part of the Philadelphia CSA (Philadelphia-Reading-Camden, PA-NJ-DE-MD CSA) and any contribution to New Jersey from these counties can be addressed through the transport provisions in the CAA. The EPA evaluated the factors for Berks County, Pennsylvania, and determined based on the factors that the County should be designated separately from the Philadelphia area. However, EPA stated in its December 20, 2017 letter to Governor Tom Wolf (EPA-HQ-OAR-2017-0548-0145), that, if EPA approves Pennsylvania’s exceptional events (EE) demonstration, the 2014-2016 design value for the Berks County monitor would move from violating to attaining the 2015 ozone NAAQS. In that case, EPA would revise its recommendation for the Reading Area to attainment/unclassifiable. The EPA concurred on Pennsylvania’s EE demonstration for the Reading airport ozone monitor (monitor 420110011) in Berks County on March 6, 2018. Therefore, EPA is designating Berks County as attainment/unclassifiable. Please see corresponding TSDs for more information.

Comment: A commenter said the EPA did not specifically address New Jersey’s large nonattainment area recommendation. The determination for the size of a nonattainment area must include the areas monitoring a violation of the standard, as well as, all areas that significantly contribute to violations of the standard.

EPA Response: As noted, the EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any “nearby” area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily “nearby” but contribute to nonattainment through long-range transport. The CAA has several separate provisions in the Act to address this phenomenon. Section 110(a)(2)(D) requires states to address ozone transport that contributes to a violation of the NAAQS in another State. In addition, section 184, creates the northeast ozone transport region and also grants EPA authority to establish additional transport regions, as appropriate. Finally, we note that the approach taken by EPA is consistent with the approach

Congress specified for Serious and above areas for the 1-hour NAAQS, where in section 107(d)(4)(A), Congress set the CMSA boundaries as the presumptive boundaries of the nonattainment area.

Comment: A commenter said the EPA must take steps to expand the size of New Jersey's ozone nonattainment areas to address the nearby emissions from Pennsylvania that contribute to the poor air quality experienced in New Jersey and the region.

EPA Response: Counties in New Jersey are contained in the NYMA or the Philadelphia nonattainment areas. As noted above, the EPA evaluated the entire CSA in making its decisions for both the NYMA and the Philadelphia nonattainment areas. According to the EPA's designations guidance, the starting point for the designation of an area is the CSA. The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any "nearby" area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily "nearby" but contribute to nonattainment through long-range transport.

Comment: A commenter suggested that it is important to add additional counties to the current NYC and Philadelphia nonattainment areas, because the Court Ruling concerning the 2015 EPA rule implementing the 2008 ozone standard affirmed that creditable emission reductions must come from within the ozone nonattainment area seeking credit. A state with a smaller sized ozone nonattainment area will find it very difficult to make any meaningful reductions when transported emissions are equal to or greater than the contribution from the nonattainment area alone.

EPA Response: As noted, ozone is a regional pollutant and is readily transported both short and long distances. To determine whether a "nearby" area is contributing to a violation, EPA recommended that states conduct a technical analysis based on a number of factors listed in the designation guidance for the 2015 ozone NAAQS, including air quality, emissions and emissions-related data, meteorology, and geography/topography. In evaluating whether to modify a state's designation recommendation, EPA also considered those factors. The justification for including or excluding a county in the nonattainment area is provided in EPA's TSD for the area. In determining whether an area should be designated nonattainment, EPA did not consider economic impacts because that is not relevant for determining whether an included area is violating the NAAQS or is a "nearby" area that is contributing to a violation as provided under CAA section 107(d).

The implementation rulemaking for the 2015 ozone NAAQS will address the CAA's control obligations for areas designated nonattainment. To the extent the CAA does not mandate specific control measures, states may consider economic concerns in development of their state implementation plans to address air quality.

Comment: One commenter contended that the addition of the Pennsylvania counties to the current NYMA and Philadelphia nonattainment areas are appropriate based on their significant contribution to ozone nonattainment, they are local from a geographical perspective, meteorology indicates pollution travels from these counties to nonattainment monitors in the nonattainment area, the emissions are significant, and the population in the counties are connected economically based on commuting data.

EPA Response: As noted, the starting point for the designation of an area is the CSA. The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any "nearby" area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily "nearby" but contribute to nonattainment through long-range transport.

The EPA evaluated all counties within both New Jersey CSAs and relied on factors including air quality, emissions and emissions-related data, meteorology, and geography/topography when analyzing the counties within the CSAs. The data included, among other things, commuting data and 2014 Total Vehicle Miles Traveled (VMT) and the percentages of those that commuted to nonattainment counties. Less than 20% of commuters within the Pennsylvania counties in the NYMA CSA traveled to counties with violating monitors. In addition, the EPA evaluated the factors for Berks County, Pennsylvania, and determined based on the factors that the County should be designated separately from the Philadelphia area. Importantly, meteorology shows, in Figures 6a-e and 6g-o of the TSD, that violating monitors in the Philadelphia-Wilmington-Atlantic City area are generally not impacted by Berks County relative to other counties in the area of analysis. The HYSPLIT back trajectories for the violating monitors in the area of analysis are predominantly from the south and southwest and Berks County is to the west or northwest of the other counties in the area of analysis. Please see corresponding TSDs for further information.

3.1.2 Exceptional Events

Comment: A commenter suggested the impacts of wildfires that occurred in Canada in May and July 2016 are shown for the states of Connecticut, New York and New Jersey. While the EPA has recognized these Exceptional Events (EE) in certain cases, there are instances where the same data for other monitors is not excluded. This would ensure appropriate design values would be used for the designations, upcoming modeling and SIP submittals such as the Good Neighbor SIPs.

EPA Response: The EPA's EE rule (40 CFR 50.14 and 51.930) requires EPA to make a concurrence or nonconcurrence determination on EE demonstrations only for monitor-days with current regulatory significance, which means that the demonstration would affect the outcome of a regulatory determination. However, submitted monitor-days considered to not have regulatory significance at the time of the EPA's demonstration review will be reconsidered for an EE determination if at some future date those monitor-days take on regulatory significance. The EPA has taken action on all EE demonstrations with regulatory significance submitted by states for the purpose of informing these 2015 ozone NAAQS designations. Information on related EE actions can be found in the docket for this rulemaking.

3.1.3 Effective Date

Comment: A commenter stated that the CAA dictates that the EPA must set the effective date for the designations to be the date of their promulgation.

EPA Response: The EPA does not agree with the comment that the CAA requires the EPA to set the effective date at the time of promulgation. Nothing in section 107(d)(1) addresses the effective date of designations. In a recent lawsuit claiming EPA had failed to meet its obligation to complete the designation process for the 2015 ozone NAAQS, the court rejected an argument that the court should order EPA to establish an "immediate" effective date for the designations. In *Re Ozone Designation Litigation* (N. D. Cal. No. 17-cv-06900-HSG), the court stated: "The CAA does not set forth a specific date by which the agency must make designations effective. The statute does not expressly equate the Administrator's duty to promulgate with a duty to make designations effective." The EPA is establishing an effective date of 60 days following publication, which is consistent with past practice for ozone designations.

3.1.4 NAAQS Implementation

Comment: A commenter suggested EPA should follow the letter of the law and prioritize public health at every state of the implementation process.

EPA Response: The EPA appreciates the commenter's views regarding implementation of the NAAQS. Under the cooperative federalism structure of the Act, States take primary responsibility for implementing the NAAQS once the NAAQS are promulgated and areas are designated for the standard. The EPA takes seriously its role in administering the CAA.

3.1.5 Air Quality Data

Comment: A commenter opposed any designations that do not accurately reflect the monitoring data and that would withhold critical local air quality information from communities and states.

EPA Response: The designations reflect the most recent air quality monitoring data that was required to be certified (2014-2016) in most instances. States are required to certify air quality data by May 1 for the previous calendar year. Where states have submitted early certified data for 2017, the EPA is assessing compliance with the NAAQS on 2015-2017 data. The EPA notes that some counties are designated based on contribution to an area that is violating the standard. Therefore, some county designations are not based solely on air quality monitoring in that county but also on a determination of whether emissions in that county contribute to a violation at a monitor in a different, nearby county.

3.1.6 Nonattainment Boundaries

Comment: A commenter opposed designations that irrationally and illegally cut down the size of the nonattainment areas which must include areas that contribute to unhealthy air in nearby areas.

EPA Response: The EPA evaluated each area on a case-by-case basis using the five factor approach outlined in the ozone designations guidance (<https://www.epa.gov/ozone-designations/epa-guidance-area-designations-2015-ozone-naaqs>). Consistent with the requirements of section 107(d) of the CAA, as part of this analysis, the EPA also evaluated nearby areas that could contribute to violations in a violating area.

3.1.7 The Term "Nearby"

Comment: A commenter said the NYC TSD never defines the term 'nearby' and the Philadelphia TSD does not even use the term. A consistent definition of 'nearby' would be to have counties that strongly affect ozone concentrations at peak downwind receptors and are within the travel time of ozone and its precursors during the return flow portion of high pressure systems.

EPA Response: The EPA discussed the definition of "nearby" in the TSD in section 3.0, in the subsection entitled, "Conclusion for The New York Metro Area." The EPA relied on its established history of using the CSA to define the starting point for "nearby" contributing areas. The EPA used a similar approach with the 1997 and 2008 ozone NAAQS.

3.1.8 Other Options and the Ozone Transport Commission

Comment: One commenter noted that options, like section 126 petitions, section 110 SIP and infrastructure SIPs do not account for the nearby impacts of two-day ozone and precursor travel time. The EPA needs to cover this gap with more effective use of transport-related SIPs or by giving states the

chance to work together by combining the Philadelphia and NYC ozone nonattainment areas with the nearby high-emission counties.

EPA Response: As discussed previously, the EPA followed the historical practice of using the CSA as the starting point for determining “nearby” contributions for the designations process. We used a similar approach designating areas for the 1997 and 2008 ozone NAAQS. The EPA notes that Philadelphia and New York are in separate CSAs. The options presented by the commenter are programs established under other sections of the Clean Air Act to address long range transport.

Comment: The commenter said that the Ozone Transport Commission (OTC) has not been as effective due to the EPA’s practice of requiring unanimity of OTC states for recommendations of control measures. This is not required by the CAA, which provides for the OTC to adopt its recommended controls to the EPA by majority vote. This is policy change that the EPA can make to follow the law.

EPA Response: The EPA acknowledges the comment regarding the OTC but notes that it is outside the scope of this action.

Comment: The commenter said the EPA needs to prepare additional tools to help this region and others meet the standard, including an updated CSPAR under the 2015 standard and revisiting the flawed October 2017 decision to limit the Ozone Transport Region.

EPA Response: The EPA acknowledges the comment addressing tools to help regions meet the standard. However, this action designates areas under the 2015 Ozone NAAQS. Implementation of the ozone standard is covered by other sections of the CAA and is outside of the scope of this action.

3.2. Area-Specific Issues

3.2.1 EPA Region I

Comments received regarding Connecticut counties in the NYMA are addressed below in Section 3.2.11.

3.2.2. EPA Region II

Comments received regarding areas located in EPA Region II (New York and New Jersey) are addressed below in Section 3.2.11.

3.2.3. EPA Region III

3.2.3.1 Maryland

Comment: A commenter was unaware whether the EPA has acted on Maryland’s May 26, 2017 EE events package regarding the July 2017 Canadian wildfire. The commenter states that Maryland’s demonstration assesses design values affected by both the May and July 2016 Canadian wildfires.

EPA Response: By letters and enclosures dated May 26, 2017 and October 20, 2017, the Maryland Department of the Environment (MDE) submitted an EE demonstration related to the May and July 2016 Canadian wildfires. MDE determined that the May and July 2016 events affected 16 and 12 monitors, respectively, throughout Maryland. By letter dated December 26, 2017, EPA concurred on 17 monitor days, deferred concurrence on 16 monitor days, and non-concurred on 10 monitor days based on the information MDE provided and EPA’s weight of evidence demonstrations referenced in 40 CFR

50.14(a)(2) and (b)(1). The EPA deferred action on monitors that do not have regulatory significance at this time. The EPA will retain MDE's submittal, should any deferred data become significant for any future regulatory action. The EPA non-concurred on exceptional event claims for monitors that did not have exceedances of the NAAQS on the requested dates, or did not have current or projected future regulatory significance.

3.2.3.2 Pennsylvania

Comment: A commenter was not aware whether EPA has acted on Pennsylvania's November 2017 EE package regarding the May 2016 Canadian wildfire.

EPA Response: The Pennsylvania Department of Environmental Protection (PADEP) submitted an EE demonstration related to the May 2016 Canadian wildfire on May 31, 2017. The EPA reviewed that demonstration and requested PADEP provide further evidence to support their request. PADEP supplemented the demonstration and submitted a final version on February 20, 2018. By letter dated March 6, 2018 (EPA-HQ-OAR-2017-0548-0331), the EPA concurred on 8 monitor days, deferred concurrence on 41 monitor days, and non-concurred on 78 monitor days based on the information PADEP provided and the EPA's weight of evidence demonstrations referenced in 40 CFR 50.14(a)(2) and (b)(1). The EPA deferred action on monitors that do not have regulatory significance at this time. The EPA will retain PADEP's submittal, should any deferred data become significant for any future regulatory action. The EPA non-concurred on monitors that did not have exceedances of the NAAQS on the requested dates, or did not have current or projected future regulatory significance.

Comment: The commenter "does not agree that any Pennsylvania counties should be included in any as [sic] multi-county or multistate non-attainment areas for the 2015 Ozone NAAQS. This is completely unnecessary because Pennsylvania is located entirely within the [CAA] defined Ozone Transport Region (OTR). Simply stated, in the case of ozone, inclusion in a multi-county or multistate 'transport region' can only be to the detriment of the individual counties that are already measuring attainment with the 2015 Ozone NAAQS."

EPA Response: The EPA assumes that the commenter meant that any Pennsylvania county with monitors showing attainment with the ozone NAAQS should not be grouped with any county showing nonattainment as part of a nonattainment area. However, CAA section 107(d)(1)(A)(i) requires that the state designate as nonattainment, "any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant." In making the final promulgations required by section 107(d)(1)(B)(i), "the Administrator may make such modifications as the Administrator deems necessary to the designations of the areas (or portions thereof) submitted under subparagraph (A) (including to the boundaries of such areas or portions thereof)." See CAA section 107(d)(1)(B)(ii). The EPA is obligated to designate nonattainment areas pursuant to CAA section 107(d)(1) regardless of an area's location within the OTR. Furthermore, nonattainment area designations under section 107(d)(1) addresses nearby contribution to nonattainment problems, whereas the OTR addresses regional transport of pollutants.

The process the EPA followed for promulgating designations is described in the TSD in the docket at EPA-HQ-OAR-2017-0548-0097. The EPA has interpreted Section 107(d)(1)(A) as recognition in the CAA that an area could be showing attainment with a certain NAAQS, but nonetheless be contributing pollutants to a nearby NAAQS nonattainment area (see EPA's 2016 ozone designations guidance). The EPA has historically considered, and used in designating the 2015 ozone nonattainment areas, a weight of evidence approach following a five-factor analysis that takes into account more than county/state borders and monitored values in counties. The five-factor analysis is discussed in the NPR and various TSDs for this action. See EPA-HQ-OAR-2017-0548. The presence of an attaining NAAQS monitor in an area

does not preclude that area from affecting NAAQS compliance in a *nearby* nonattainment area. Many other factors in addition must be taken into account to determine whether an area is contributing to nonattainment in a nearby area.

Comment: A commenter suggested that some states that are parts of multi-state nonattainment areas appear unwilling to redesignate attainment of a NAAQS in their own state (continuing nonattainment), even though monitoring data may show attainment, to force economic burdens upon sources in neighboring states, as shown by certain language in a December 9, 2013 letter submitting a CAA Section 176A petition to EPA.

EPA Response: The commenter did not cite a specific example of a state in a multi-state nonattainment area refusing to seek redesignation to attainment for areas under its control in order to burden other states. The letter cited by the commenter transmitted a large amount of information in support of the request by some OTR states under Section 176A of the CAA to expand the OTR to include other upwind states. As such, the letter itself is only a small portion of a much larger submission. In addition, EPA eventually denied this request to expand the OTR. *See* 82 FR 51238, November 3, 2017². Area redesignations from nonattainment to attainment and 176A petitions are outside the scope of this initial area designation action for the 2015 ozone NAAQS.

Comment: A commenter noted that there are negative consequences to a county with monitors showing attainment being included in a nearby nonattainment area, including:

- 1) Additional, unnecessary emission reductions being required from major sources in a county already measuring attainment to allow that multi-county or multistate area be designated as attainment;
- 2) In the case of Pennsylvania, it could eliminate the ability to average with other affected sources under common ownership or control under the Pennsylvania RACT 2 rule; and
- 3) The inability of a state to designate their county to attainment if another state with a county in a multistate nonattainment area will not designate their included county to attainment.

EPA Response: As mentioned above, section 107(d)(1)(A)(i) requires states and EPA to include in nonattainment areas those nearby areas contributing to nonattainment. The EPA applies a five-factor analysis, after receiving recommendations from the state, to evaluate whether nearby counties sufficiently contribute for the purposes of including a county as part of the nonattainment area. Control strategy consequences associated with a nonattainment designation, compliance with the CAA's RACT provisions for nonattainment areas, and area redesignations from nonattainment to attainment are outside the scope of this initial area designation action for the 2015 ozone NAAQS.

Comment: One commenter said all counties in Pennsylvania, including Lebanon, Berks, York, Chester, and Montgomery Counties, should be designated as attainment/unclassifiable for the 2015 ozone NAAQS, with the exception of Bucks, Delaware, and Philadelphia Counties.

EPA Response: Regarding Lebanon County, the EPA has approved Pennsylvania's exceptional events (EE) submission for the May 2016 Canadian wildfires as it pertains to Lebanon County. *See* the March 6, 2018 EE concurrence letter from EPA Region III Regional Administrator Servidio to Pennsylvania DEP Secretary McDonnell. Following approval of the EE submission, the revised 2014-2016 design value (DV) for the violating Lebanon County ozone monitor meets the attainment level for the 2015 ozone NAAQS. By letter dated December 20, 2017 (EPA-HQ-OAR-2017-0548-0145) the EPA first proposed,

² This final action is currently being appealed.

based on the five factor analysis performed in the TSD, that Lebanon County and the following additional counties be part of a new 2015 ozone nonattainment area known as the Harrisburg-York-Lebanon-Lancaster Area: Cumberland, Dauphin, Lancaster, and York Counties. However, this letter also anticipated that Pennsylvania's EE submission, if approved, would put Lebanon County into the attainment/unclassifiable category, and under that circumstance alternatively proposed that the counties in the proposed Harrisburg-York-Lebanon-Lancaster Area be designated as attainment/unclassifiable, with the exception of York County, which would be unclassifiable.

Regarding Berks County, the EPA's approval of Pennsylvania's EE demonstration for the May 2016 Canadian Wildfires caused the 2014-2016 DV for the Reading area monitors to show attainment with the 2015 ozone standard of 70 ppm. As stated in EPA's proposed designation rulemaking, the Reading Area (which consists solely of Berks County) will therefore be designated attainment/unclassifiable for the 2015 ozone NAAQS.

For Chester County, approval of the EE demonstration has not brought the county's DV to attainment. The DV for Montgomery County following approval of the EE submission does not bring the monitor into attainment, but as discussed in response to other comments, the weight of evidence of the five factors warrants keeping Montgomery County as part of the Philadelphia nonattainment area.

Harrisburg-York-Lebanon-Lancaster, PA

Comment: The Pennsylvania Department of Environmental Protection (PADEP) requested that the Harrisburg-York-Lebanon-Lancaster and Reading Areas should be designated as attainment/unclassifiable if the EPA concurs on Pennsylvania's EE demonstration.

EPA Response: The EPA concurred on Pennsylvania's EE demonstration for the Berks County and Lebanon County monitors on March 6, 2018 (EPA-HQ-OAR-2017-0548-0331). As stated in the EPA's December 20, 2017 letter to Governor Tom Wolf (EPA-HQ-OAR-2017-0548-0145), if EPA approves the EE demonstration, the 2014-2016 design value for those monitors would move from violating to attaining the 2015 ozone NAAQS. In that case, EPA would revise its recommendations for the Reading Area (Berks County) and the Harrisburg-York-Lebanon-Lancaster Area (Cumberland, Dauphin, Lebanon, Lancaster, and York Counties) from nonattainment to attainment/unclassifiable. Therefore, the EPA is designating Berks, Cumberland, Dauphin, Lebanon, and Lancaster Counties as attainment/unclassifiable.

The EPA's December 20, 2017 letter (EPA-HQ-OAR-2017-0548-0145) also stated that, if the EE demonstration is approved, EPA intended to designate York County as unclassifiable because a York County monitor has incomplete data. However, on March 19, 2018, PADEP submitted to the EPA a data completeness analysis that includes missing days assumed to be less than the standard for the York County Downwind monitor (monitor 421330011). The EPA approved that demonstration on April 4, 2018 (EPA-HQ-OAR-2017-0548-0332). Therefore, that incomplete monitor now has a valid design value that meets the NAAQS. Therefore, the EPA is designating York County as attainment/unclassifiable.

Comment: A commenter supported the EPA's recommendation to expand the counties designated nonattainment in the Harrisburg-York-Lebanon-Lancaster area to Cumberland, Dauphin, Lancaster, Lebanon, and York Counties based on factors including emission sources of NO_x and VOC, VMT, emissions transport, population and population density.

EPA Response: In the EPA's December 20, 2017 letter to Governor Tom Wolf (EPA-HQ-OAR-2017-0548-0145), the EPA stated its intention to designate Cumberland, Dauphin, Lebanon, Lancaster, and

York Counties as nonattainment in the Harrisburg-York-Lebanon-Lancaster Area. However, the EPA also stated that, if the EPA approves Pennsylvania's EE demonstration, the 2014-2016 design value for the Lebanon County monitor would move from violating to attaining the 2015 ozone NAAQS. In that case, the EPA would revise its recommendation for the Harrisburg-York-Lebanon-Lancaster area to attainment/unclassifiable. The EPA concurred on Pennsylvania's EE demonstration for the Lebanon County ozone monitor on March 6, 2018 (EPA-HQ-OAR-2017-548-0331). Therefore, the EPA is designating Cumberland, Dauphin, Lebanon, and Lancaster Counties as attainment/unclassifiable.

The EPA's December 20, 2017 letter (EPA-HQ-OAR-2017-0548-0145) also stated that, if the EE demonstration is approved, the EPA intended to designate York County as unclassifiable because a York County monitor has incomplete data. However, on March 19, 2018, PADEP submitted to the EPA data completeness analysis that includes missing days assumed to be less than the standard for the York County Downwind monitor (monitor 421330011). The EPA approved that demonstration by letter dated March 6, 2018 (EPA-HQ-OAR-2017-0548-0332). Therefore, that incomplete monitor now has a valid design value that meets the NAAQS, so the EPA is designating York County as attainment/unclassifiable.

Comment: A commenter opposed the EPA's intended designation of Dauphin County, Pennsylvania as Nonattainment. To the extent that the Commonwealth of Pennsylvania's initial recommendations dated October 3, 2016 support our position with respect to Dauphin County, we incorporate Pennsylvania's recommendations and data by reference. The Commonwealth recommended that Dauphin County be designated as Attainment with the 2015 Ozone NAAQS. We also incorporate by reference Pennsylvania's supplemental data submission to the EPA dated April 11, 2017. Finally, the commenter incorporates by reference and fully supports the Commonwealth's EE Analysis pertaining to the dates May 24th through May 26th of 2016 that was submitted to the EPA by Pennsylvania's Department of Environmental Protection ("PADEP") in November of 2017. As indicated in more detail in the formal comments uploaded to the Docket, the commenter respectfully requests that the EPA revise its designations to exclude Dauphin County, Pennsylvania from the Harrisburg-York-Lebanon-Lancaster, Pennsylvania Nonattainment Area and designate the county as Attainment/Unclassifiable as originally recommended by the Commonwealth of Pennsylvania."

EPA Response: The EPA concurred on Pennsylvania's EE demonstration for the Lebanon County monitor on March 6, 2018 (EPA-HQ-OAR-2017-0548-0331). As stated in the EPA's December 20, 2017 letter to Governor Tom Wolf (EPA-HQ-OAR-2017-0548-0145), if the EPA approves the EE demonstration, the 2014-2016 design value for the Lebanon County monitor would move from violating to attaining the 2015 ozone NAAQS. In that case, the EPA would revise its recommendation for the Harrisburg-York-Lebanon-Lancaster Area, which includes Dauphin County, from nonattainment to attainment/unclassifiable. Therefore, the EPA is designating the Harrisburg-York-Lebanon-Lancaster Area, including Dauphin County, as attainment/unclassifiable. Because the commenter's concern about Dauphin County being designated nonattainment is resolved by the EE approval, the EPA will not respond to the commenter's objections to EPA's five factor analysis in the TSD.

Pittsburgh- Beaver Valley, PA

Comment: A commenter urged the EPA to designate the Pittsburgh-Beaver Valley area as nonattainment. The commenter notes a large number of major NOx and VOC emissions sources in the area, stating that Allegheny County has the highest total VOC emissions and the second highest NOx emissions among counties in Pennsylvania. The commenter further notes several exceedances of the NAAQS in 2017.

EPA Response: Section 107(d) of the Clean Air Act requires the EPA to designate an area as nonattainment if it does not meet (or contributes to ambient air quality in a nearby area that does not

meet) a NAAQS. The 2014-2016 design value for the Pittsburgh-Beaver Valley area is 70 parts per billion (ppb), which meets the 2015 ozone NAAQS.

Furthermore, preliminary 2015-2017 data indicates that the area continues to meet the 2015 ozone NAAQS. Two monitors in Allegheny County, the Harrison Township (monitor 420031008) and South Fayette (monitor 420030067), recorded four and five exceedances of the 2015 ozone NAAQS, respectively, during 2017, but the preliminary 2015-2017 design values for these monitors still meet the 2015 ozone NAAQS. Compliance with the 8-hour ozone NAAQS is not based on the number of exceedances at any given monitor. Compliance with the NAAQS is determined by the design value, which is calculated at each monitor as the 3-year average of the fourth highest values measured at the monitoring site in each year. *See* 40 CFR 50, Appendix U. The preliminary 2015-2017 design values at the Harrison Township monitor (monitor 420031008) and South Fayette monitor (monitor 420030067) are 69 ppb and 70 ppb, respectively. The design value for the Pittsburgh-Beaver Valley area is meeting the 2015 ozone NAAQS and this area is not contributing to a nearby violation of the 2015 ozone NAAQS. Therefore, the EPA has designated the area as attainment/unclassifiable.

Comment: The commenter noted that Pennsylvania's 2016 recommendation letter includes HYSPLIT back trajectories "that appear to show impact from the Pittsburgh-Beaver Valley area to violating monitors at Bristol, Lebanon, Norristown, and Philadelphia (see Appendix C of the PA DEP analysis)." The commenter goes on to state that EPA should consider the impact of the area's "significant" emissions on intrastate nonattainment areas.

EPA Response: The EPA concurred on Pennsylvania's EE demonstration for the Lebanon County and Norristown (Montgomery County) monitors. Therefore, these monitors are no longer violating the 2015 ozone NAAQS. The Bristol and Philadelphia monitors are in the Philadelphia-Wilmington-Atlantic City (Philadelphia) nonattainment area, approximately 300 miles from Pittsburgh. The EPA has a long history of using the consolidated statistical area (CSA) to define the starting point for analyzing nearby contributing areas. The EPA used a similar approach with the 1997 and 2008 ozone NAAQS. Furthermore, the CAA Amendments of 1990 set, by operation of law, the boundaries for Serious, Severe, and Extreme nonattainment areas for the 1979 1-hour ozone NAAQS using the boundaries of the metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census). The Pittsburgh area is not near the violating monitors cited in the comment, considering both the plain English meaning of the term "nearby" and EPA's traditional interpretation of the term. There are two CSAs and eight or nine counties from the eastern edge of the Pittsburgh-Beaver Valley area and the violating Bristol and Philadelphia monitors in Bucks and Philadelphia Counties. Therefore, EPA did not consider the Pittsburgh area's emissions in the Agency's five factor analysis to determine the boundaries of the Philadelphia and Harrisburg-York-Lebanon-Lancaster nonattainment areas.

Reading, PA

Comment: A commenter supported the EPA's recommendation that Berks County in the Reading area be designated as nonattainment. The commenter notes that Berks County has a violating monitor with a 2014-2016 design value above the NAAQS at 0.071 ppm and that preliminary 2017 data shows several ozone exceedances in Berks County, "indicating continual air quality challenges for the area which could contribute to 2015-2017 Design Values above the 2015 Ozone NAAQS."

EPA Response: In the EPA's December 20, 2017 letter to Governor Tom Wolf (EPA-HQ-OAR-2017-0548-0145), EPA stated its intention to designate Berks County as nonattainment, as the Reading nonattainment area. However, the EPA also stated that, if the EPA approves Pennsylvania's EE demonstration, the 2014-2016 design value for the Berks County monitor would move from violating to

attaining the 2015 ozone NAAQS. In that case, the EPA would revise its recommendation for the Reading Area to attainment/unclassifiable. The EPA concurred on Pennsylvania's EE demonstration for the Reading airport ozone monitor (monitor 420110011) in Berks County on March 6, 2018 (EPA-HQ-OAR-2017-0548-0331). Therefore, the EPA is designating Berks County as attainment/unclassifiable. Furthermore, preliminary 2015-2017 data indicates that, with the EPA's concurrence on Pennsylvania's EE demonstration, Berks County continues to meet the 2015 ozone NAAQS.

3.2.4. EPA Region IV

Comments received regarding areas in Region IV are addressed below in section 3.2.11.

3.2.5. EPA Region V

3.2.5.1 Michigan

Comment: The State of Michigan requested that only parts of Muskegon and Allegan Counties be designated as nonattainment. The townships that Michigan is recommending for nonattainment extend from 8.8 miles to 17.4 miles from the shore for Muskegon County and from 15.5 to 19.2 miles from the shore for Allegan County. Michigan based its position on the following:

- A 2009 Lake Michigan Ozone Study concluded that ozone pollution in western Michigan is dominated by transport.
- 2016 design values for eight West Michigan monitors were compared against their distance from shore. The closest attaining monitor (Jenison in Ottawa County) is 18.31 miles from the shore.
- 82% of the NOx and VOC point source emissions in Allegan County are emitted within the proposed nonattainment area and 98% of the NOx and VOC point source emissions in Muskegon County are emitted within the proposed nonattainment area.
- HYSPLIT ozone modeling results show that back trajectories on high ozone days are when air parcels primarily travel from the Southwest and pass over the Chicago, IL-Gary, IN area before arriving at the Muskegon and Holland monitors. The NOx and VOC emissions from the west Michigan counties are fairly minimal compared to the 274,440 tons of NOx and 206,171 tons of VOC emitted from the Chicago CSA.
- Photochemical modeling of ozone over the Lake Michigan area demonstrate that ozone concentrations do not attain the standard within a narrow band along the shoreline.

EPA Response: We agree with the state's recommendations above noting that the meteorological data strongly indicates that the violating monitors in these counties are predominantly affected by the transport of emissions over Lake Michigan. The township boundaries selected by Michigan are generally consistent with the area along the Muskegon and Allegan shores that could be expected to exceed the ozone standard. To the extent in-county emissions sources may also contribute to violations of the standard, we note, as recognized by the state, a significant portion of the emissions within the two counties are also included within the state's recommended boundary for each nonattainment area.

Comment: A commenter claimed that Ottawa County (in Western Michigan) should be designated as nonattainment for ozone because Ottawa County emissions impact violating monitors in Muskegon and Allegan Counties. More specifically:

- 22,558 tons of VOC and NOx from Ottawa County

- JH Campbell plant (on western shore of Ottawa) emitted 5,049 and 143 tons of NOx and VOC, respectively, in 2014. These emissions reflect control of NOx emissions at two of its three units since 2011
- The commenter stated that J.H. Campbell can contribute ozone at levels exceeding 1 percent of the 2015 ozone NAAQS in Allegan, Berrien and Muskegon Counties based on 2011 daily emissions levels that J.H. Campbell continues to exceed since the NOx emissions controls were installed on two of its three units.
- CAMx APCA OSAT modeling showed a 1.29 ppb impact in Berrien County and a 0.82 ppb impact in Allegan County on June 13, 2011 when emissions from J.H. Campbell were 16.25 tons. A level that J.H. Campbell exceeded on four days during the 2017 ozone season.
- CAMx APCA OSAT modeling showed a 1.07 ppb impact in Muskegon County on May 29, 2011 when emissions from J.H. Campbell were 17.62 tons.
- In 2014, J.H. Campbell accounted for about 40% of Ottawa County NOx emissions.

EPA Response: The EPA disagrees that Ottawa County should be designated as nonattainment based on a weight of evidence analysis, which includes the following assessments:

- As reflected by HYSPLIT modeling and by analysis in the 2009 Lake Michigan Ozone Study, the violating monitors in Western Michigan are primarily impacted by emissions from the Chicago CSA.
- Two of the three EGUs at J.H. Campbell are controlled with SCRs. The 2011 modeling relied on by the commenter does not reflect these controls. While the commenter states that the J.H. Campbell plant continues to emit NOx on some days at levels similar to or above daily emissions from the 2011 modeling, the commenter has provided no information regarding whether those emission levels occur on days when the relevant monitors are exceeding the 2015 ozone NAAQS, or that meteorological conditions support that emissions on those days are transported to the violating monitors.

Thus, EPA does not agree that it should modify the State's recommendation by designating Ottawa County as nonattainment based on this analysis.

Comment: A commenter supported EPA's intention to designate the Detroit area as a nonattainment area.

EPA Response: The EPA appreciates the commenters' views. In agreement with the state of Michigan's recommendation, the EPA has designated the Detroit area a nonattainment for the 2015 ozone NAAQS.

Comment: A commenter agreed that the western Michigan counties of Allegan, Muskegon and Berrien should be designated as nonattainment. However, because these counties are primarily affected by transported air pollution from the Chicago metropolitan area, the commenter questioned why EPA was recommending the counties be designated as stand-alone nonattainment areas rather than as part of an IL-IN-WI multistate area. Including those counties as part of the larger nonattainment area would allow for appropriately informed planning for both the downwind and the upwind areas.

EPA Response: The CAA provides that EPA should designate as nonattainment areas that are violating the standard and nearby areas contributing to air quality at violating monitors. Several other provisions in the CAA address longer range transport of ozone and ozone precursor emissions (see, e.g., section 110(a)(2)(D)). Consistent with how Congress identified nonattainment areas for the 1-hour standard at the time of the CAA Amendments of 1990 (section 107(d)(4)(A)(iv)), EPA has used the Core Based

Statistical Area (CBSA) or Combined Statistical Area (CSA) as a starting point for its analysis in determining appropriate boundaries for nonattainment areas. In guidance issued in February 2016, EPA indicated it would follow this same approach for the 2015 ozone NAAQS. Consistent with the approach EPA stated it would follow in the February 2016 Guidance, EPA used the CBSA as the area of analysis for the western Michigan counties and addressed the Chicago CSA separately.

3.2.5.2 Ohio

Comment: The commenter contended specific days from 2016 with high ozone should be excluded from the Ohio monitoring data due to impacts from Canadian wildfires and references EPA Exceptional Event request packages put together by the states of Ohio, New Jersey, and Maryland and containing evidence that Ohio air quality was impacted by these wildfires.

EPA Response: Ohio submitted an exceptional event demonstration on November 15, 2017. The EPA is in the process of reviewing and taking action on that submission. With respect to designations for the 2015 ozone standard, Ohio did not rely on the exceptional events demonstration to support its initial nonattainment recommendations, nor did the state submit a revised nonattainment boundary recommendation based on the exceptional events data. As set forth in the five factor analysis in the December TSD, EPA is agreeing with Ohio's nonattainment recommendations for the Cleveland, Columbus, and Cincinnati areas. Because these areas continue to show monitored violations of the 2015 ozone standard even after the exceptional events data is excluded, concurrence with the states exceptional events demonstration would not change EPA's agreement with the State's nonattainment recommendation. Furthermore, all of the nonattainment areas in Ohio are being classified as Marginal nonattainment areas, which is the lowest classification; therefore, any changes that lower design values resulting from a concurrence with the exceptional events demonstration would not affect the classification of the areas at this time.

Cleveland, OH

Comment: A commenter noted that the EPA should include Ashtabula County in the Cleveland, Ohio nonattainment area. Ashtabula County was part of the ozone nonattainment area under the 1997 and 2008 standards and has a monitor that is near to violating the standard with both a 2014-2016 and preliminary 2015-2017 design value of 0.070 ppm. The commenter contends that major sources in Ashtabula are located near two HYSPLIT back trajectories and appear to have the potential to influence violating monitors.

EPA Response Section 107(d)(1) of the Clean Air Act directs the EPA to designate an area as "nonattainment" if it is violating the NAAQS or if it is contributing to a violation of the NAAQS in a nearby area. In the Cleveland area, monitors in Cuyahoga and Geauga Counties show a violation of the 2015 ozone NAAQS based on certified 2014-2016 monitoring data. As acknowledged by the commenter, the 2014-2016 design value for the Ashtabula County monitor is 0.070 parts per million (ppm), which meets the 2015 ozone NAAQS as does the preliminary design value for 2015-2017. Therefore, air quality data does not require that Ashtabula County be included in the Cleveland nonattainment area based on a determination that the county is violating the standard. The EPA evaluated whether emissions in Ashtabula County were contributing to violations of the 2015 ozone NAAQS at the monitors in Cuyahoga and Geauga Counties based on the weight-of-evidence of the five factors identified in EPA's Designation Guidance. EPA notes that only 2 HYSPLIT back trajectories pass through Ashtabula County meaning that this meteorological pattern was relatively infrequent on days with ozone above the standard evaluated

in the TSD. When looking at the full five-factor analysis, EPA concludes that while Ashtabula County has moderate emissions as compared to other counties in the area of analysis (17% and 23% of Cuyahoga County's NOx and VOC emissions, respectively), the county ranks relatively low in population density and VMT and has only two HYSPLIT trajectories that pass through the county on days that the violating monitors are exceeding the NAAQS. Given the overall weight of evidence of all five factors, including the relative rarity of trajectories passing through Ashtabula County and the greater emission levels of other counties in the area of analysis, EPA determined not to modify the State's recommendation that Ashtabula County not be included as part of the Cleveland nonattainment area.

Comment: The commenter agreed with EPA's intended boundary for the Cleveland, Ohio area.

EPA Response: The EPA appreciates the commenters' views. The EPA is finalizing the boundary for the Cleveland Area as provided in the December TSD. The EPA is designating Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit Counties as the Cleveland nonattainment area for the 2015 ozone NAAQS.

Columbus, OH

Comment: The commenter contended that EPA should include Ross County in the Columbus, Ohio nonattainment area. The commenter argues that the P H Glatfelter paper facility in Ross County emitted over 1,000 tons of NOx in 2016 from its two coal-fired boilers, which appear to impact the Franklin County monitor.

EPA Response: The P H Glatfelter facility converted their No. 7 and 8 coal-fired boilers (B002 and B003) to natural gas by January 31, 2017. This conversion is estimated to result in a 76% reduction in NOx emissions from these units. Actual reported emissions from these units in 2016 was 1,103.3 tons and emissions in 2017 are expected to be approximately 266 tons.

Further, the EPA does not determine contribution based on a single factor, but rather on the weight-of-evidence of the five factors set forth in EPA's February 25, 2016 designation guidance. The commenter has not provided a compelling reason for revising the conclusion EPA reached in the five factor analysis contained in the TSD for the Columbus area.

Comment: The commenter agreed with EPA's intended boundary for the Columbus, Ohio area

EPA Response: The EPA appreciates the commenters' views. As documented in the TSD for this area, the EPA is designating Delaware, Fairfield, Franklin, and Licking Counties as the Cleveland nonattainment area for the 2015 ozone NAAQS, as provided in the December TSD.

3.2.5.3 Wisconsin

Comment: The Wisconsin Department of Natural Resources (WDNR), and Governor Walker submitted comments asking EPA to foremost consider designating the entire state as attainment of the 2015 ozone NAAQS as per the Governor's original September 21, 2016, recommendation, since WDNR believes ozone levels in Wisconsin are beyond the state's control due to out-of-state emissions and meteorology. If EPA does not designate the entire state as attainment, then WDNR urged EPA to only designate as nonattainment narrow parcels of land near the Lake Michigan shoreline around the violating monitors

(essentially dismissing any contribution analysis), since WDNR believes these monitors are not meaningfully affected by in-state emissions.³ For these reasons, U.S. Congressman F. James Sensenbrenner Jr. of Wisconsin (0285) would also like EPA to consider reducing the scope of EPA's intended nonattainment designations in Wisconsin and believes pollution from beyond Wisconsin's borders should be accurately accounted for, especially as it pertains to monitors located along Lake Michigan.

In its April 2017, technical support document (TSD), WDNR provided a geographic estimate of areas experiencing nonattainment air (i.e. with design values > 70 ppb) based on an estimate of a "70 ppb ozone contour line" near the shoreline of Lake Michigan. WDNR's 70 ppb contour is based on a best-fit line developed by plotting the design values of six of the eight violating monitors and one of the four attainment monitors located within four miles of the Lake Michigan shoreline versus the location of each of these seven monitors expressed as distance in miles from the shoreline of Lake Michigan. The extent of this 70 ppb contour was described in WDNR's April 2017 TSD and again in WDNR's comment letter (0300), which included specific modifications to the location of the 70 ppb contour in Racine County (4.2 miles inland) and in Sheboygan County (2.3 miles inland) relative to WDNR's original recommendations regarding these counties provided in its April 2017 TSD.

As a starting point for the distance from the lakeshore going inland, WDNR suggested EPA use the U.S. Army Corps of Engineers (USACE) Ordinary High Water Mark (OHWM), which for Lake Michigan is 581.5 feet, and cited the USACE website for the Detroit District's Regulatory Office.⁴ According to WDNR the USACE OHWM is permanent (e.g., it does not change based on water level fluctuations), is legally-defined, can be easily identified, and is already widely-used in federal regulatory applications.

EPA Response: Because there are valid Federal Reference ozone monitors indicating violations of the 2015 ozone NAAQS, the CAA requires that EPA designate as nonattainment those areas that do not meet the NAAQS, regardless of the source of high ozone levels. EPA's assessment of the boundaries for nonattainment areas associated with the violating monitors is contained in the TSD, and includes consideration of the information supplied by Wisconsin in submissions to EPA for designations. EPA's final nonattainment boundaries are consistent with the state's input.

Here we address the feasibility of Wisconsin's suggestion of using the OHWM to delineate a distance inland from the shoreline rather than EPA's roadway-based approach. The federal high water mark for Lake Michigan is currently set at 581.5 feet.⁵ The USACE OHWM is a jurisdictional benchmark for

³ In a September 21, 2016, letter to EPA from its Governor, Wisconsin recommended that the entire state be designated as attainment for the 2015 ozone NAAQS, despite having violating monitors, since, in Wisconsin's opinion, elevated ozone levels in Wisconsin are primarily due to emissions originating from other states, recent ozone levels in Wisconsin have greatly improved, and Wisconsin has already significantly reduced ozone-causing emissions. Later in an April 20, 2017, technical support document (TSD), WDNR submitted to EPA additional information to support the Governor's recommendation including estimates of the geographic extent of the areas in Wisconsin with design values above 0.070 ppm (70 ppb). Wisconsin requested that if EPA designates nonattainment areas in Wisconsin, the EPA should ensure that the geographic scope of these areas is minimized. Wisconsin emphasized in its April 20, 2017, submittal that these descriptions should not be construed as a recommendation for a potential nonattainment area designation for the 2015 ozone NAAQS.

⁴ <http://www.lre.usace.army.mil/Missions/Great-Lakes-Information/Links/Ordinary-High-Water-Mark-and-Low-Water-Datum/>

⁵ <http://www.lre.usace.army.mil/Missions/Great-Lakes-Information/Links/Ordinary-High-Water-Mark-and-Low-Water-Datum/>

administering its regulatory program in navigable waterways under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. The OHWM is the line on the shore coincident with the elevation contour that represents the approximate location of the line on the shore established by fluctuations of water and indicated by physical characteristics such as shelving, destruction of terrestrial vegetation, presence of litter or debris, or changes in the character of soil. Wisconsin did not provide details on the Wisconsin OHWM and only referenced the federal OHWM via the link to the USACE Detroit District's Regulatory Office without providing additional details or maps depicting what Wisconsin's areas would look like if they were to be based upon the federal OHWM for Lake Michigan. Whether using the federal OHWM or simply using a standard map of the shoreline, a distance inland to delineate a nonattainment area is problematic, since the distance inland might bisect individual source facilities, thus making it difficult to regulate which part of the source is in the nonattainment area and which part of the source is outside of the nonattainment area. With roadways, it is clear as to which portion of a facility is located in a nonattainment area if a facility has several building units one of which may be located across a roadway from another.

Additional comments and responses regarding specific areas as well as the topic of contribution are summarized and addressed in further detail below.

Comment: Several public health groups and an environmental law and policy group commented on EPA's Wisconsin intended nonattainment areas. One of these commenters agreed with EPA's intent to designate the Door, Sheboygan, and Manitowoc partial county areas as nonattainment. However, since Door, Sheboygan and Manitowoc counties are primarily affected by transported air pollution from the Chicago metropolitan area, this commenter questioned why EPA is recommending the counties be designated as stand-alone nonattainment areas rather than as part of the Chicago IL-IN-WI multistate area. Some commenters believed that Sheboygan County, Manitowoc County, and Door County, Wisconsin, should be included as part of the Chicago IL-IN-WI nonattainment area since the data indicate these areas receive transported emissions from the Chicago metro area. The commenter indicated, "EPA's current proposal limits these counties' ability to ensure that they meet the standard quickly. EPA argues that these represent areas outside of the Chicago metropolitan area, so they separate the designations. With limited sources under their authority, these counties cannot take actions individually to control or reduce emissions coming into these counties. Fortunately, if national measures including the 2016 Cross-State Air Pollution Rule and the 2014 Tier 3 standards remain in effect, these counties will have federal help to meet the standards. However, if included as part of the larger metro area planning and implementation, those counties would have a stronger voice in ensuring improvements to protect the health of their residents." One commenter noted that even though the Milwaukee area is between these northern counties and the Chicago metropolitan area, back trajectory analyses show that they are affected by transport from the Chicago area. A commenter indicated Door County is sufficiently remote that an individual designation may be more appropriate; however, the commenter asked that EPA consider this issue for all three counties.

EPA Response: The EPA acknowledges the receipt of these comments. While it might make sense to include Sheboygan and possibly Manitowoc in the Milwaukee area (not the Chicago area since it is not contiguous with Sheboygan and Manitowoc), EPA carefully considered this option and decided to maintain its long-standing method of starting with the larger of the CSA or CBSA as the initial area of analysis for each area with violating monitor(s).⁶ Sheboygan and Manitowoc are each single county areas. The state has the discretion to make decisions regarding how best to target attainment planning for its nonattainment areas including its single (partial) county areas that are upwind of in-state urban areas and EPA stands ready to work cooperatively with the state in these efforts. As for contributions from out-of-

⁶ <https://www.epa.gov/ozone-designations/epa-guidance-area-designations-2015-ozone-naaqs>

state upwind areas (e.g. the Chicago area), the transport provisions of the Clean Air Act require each state to analyze their contributions to downwind nonattainment and maintenance receptors.

Comment: A commenter emphasized that the EPA needs to act swiftly to formally designate nonattainment areas. EPA's actions have resulted in unnecessary and prolonged delay in areas taking steps to protect their residents and develop a successful plan to reduce emissions.

Several commenters urged the EPA to allow no further delays to complete this review and protect the health of all Americans.

EPA Response: By this action, the EPA is finalizing the designation for all areas except one and EPA will complete the designation process by July 17, 2018.

Comment: One commenter submitted detailed concerns about the future emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases from the proposed Foxconn facility in Racine County and the detrimental impact these emissions would have on air quality, human health, and the environment. The commenter cited EPA's December 22, 2017, TSD⁷ and stated that Racine County is already within an EPA-designated non-attainment area for ozone. Because Foxconn will be a major source polluter of both VOCs and NO_x, and will account for about 5% of the annual local production of these contaminants the facility will contribute significantly to local ozone production.

EPA Response: To clarify, Racine County is not currently within an EPA-designated nonattainment area for ozone. The EPA addresses in the final nonattainment area TSD the conclusions reached for the final boundary for the Milwaukee area, including Racine County. EPA's 5-factor analysis includes an evaluation of emissions; however, it does not take into consideration future projected emissions in the area of analysis. Therefore, the analysis did not consider the future emissions from the proposed Foxconn facility. These additional emissions would be addressed by the Clean Air Act's preconstruction permitting requirements.

Comment: Governor Walker commented that WDNR has data and modeling to show that the vast majority of emissions leading to nonattainment come from out-of-state. WDNR (0300) commented that LADCO source apportionment modeling results show that out-of-state emissions are responsible for the elevated ozone concentrations observed at Wisconsin's lakeshore monitors, including those in the 5-county Milwaukee area. For instance, only 7% of the ozone at Milwaukee's Bayside monitor originated from Wisconsin and much larger portions came from out-of-state (e.g., 26% from Illinois and roughly 20% from "boundary conditions" also denoted as "BC" which they interpret to represent international sources). WDNR commented that Chicago emissions dwarf those of the Wisconsin emissions, estimating that the Chicago area emits 79-81% of the NO_x and VOC emissions in the southwestern Lake Michigan area.

Several cited the source apportionment modeling in the WDNR submittal which show the contribution from the entire state of Wisconsin to be approximately 12%, 15%, and 7% at the Harrington, Grafton, and Bayside monitors respectively. Commenters believed that it takes 17,349 to 25,604 tpy of precursor emissions to make 1 ppb of ozone.⁸ One commenter indicated this would translate to ozone concentrations of 0.49, 0.41, and 1.16 ppb on the high end of the range for Racine, Washington, and

⁷ https://www.epa.gov/sites/production/files/2017-12/documents/wi_120d_tsd_rewrite_final.pdf

⁸ See WDNR "Correspondence Memorandum, Ozone Air Quality Analysis for a PSD Permit for Arrowcast – Shawano," Dated June 7, 2012: "...it is estimated that it takes from 17,349 tons per year to 25,604 tons per year of total VOC and NO_x reductions to result in a 1 ppb reduction in ozone concentration."

Waukesha county emissions, respectively. This commenter indicated that “assuming this relationship to be true, sources in Racine County would result in an increase of no more than 0.5 ppb ozone for any monitor in Wisconsin.”

EPA Response: The EPA addressed in the final nonattainment area TSD the conclusions reached for the source apportionment modeling cited in WDNR’s April 2017 submittal and February 2018 comments. EPA notes that WDNR did not include in its April 2017 TSD, nor in its February 2018 comment letter/TSD, a detailed, transparent description of the source apportionment modeling. A complete and thorough description of any modeling analysis including details regarding the modeling platform, emissions inventory, model options, post-processing methodology, and model performance evaluation would be necessary to fully and objectively assess the modeling analysis.

With respect to the commenters assertion that it takes 17,349 to 25,604 tpy of precursor emissions to form 1 ppb of ozone, firstly the commenters appear to have misquoted the document to which they were referring.⁹ Secondly, ozone formation chemistry is complex and nonlinear. It varies based upon many factors, such as magnitude of precursor emissions, local meteorology, geographical features, etc. Any emissions of NO_x and VOC have the potential to photochemically react to form ozone. Studies show that single sources of ozone precursor emissions can have measurable nearby downwind ozone impacts.^{10,11} Maximum impacts typically occur within 50-100 km (31-62 miles) from the source and can occur up to 200 km (124 miles) away from the source. Actual sources¹⁰ and hypothetical single sources¹¹ have been analyzed for their potential downwind ozone impacts. As a high-end example, a hypothetical source in northern Illinois emitting 500 tpy of NO_x can have a maximum 8-hour downwind ozone impact of 3.88 ppb.¹² As a lower end example, a hypothetical source in northwest Indiana emitting 500 tpy of NO_x can have a maximum 8-hour downwind ozone impact of 1.15 ppb.¹³

Comment: WDNR commented that EPA failed to acknowledge that WDNR submitted two sensitivity modeling scenarios showing emission reductions in Wisconsin would not meaningfully impact ozone design values along the lake and therefore local emissions have little to no impact on lakeshore ozone concentrations. One of these scenarios involved modeling a 10% reduction in both NO_x and VOC emissions from all sectors excluding on-road and biogenic emissions from a 10-county area in southeast Wisconsin. The other scenario involved “zero out” modeling of emissions from all sectors in Sheboygan County (excluding biogenic emissions). The modeling results showed that eliminating Sheboygan County emissions would not reduce the design values at the county’s monitors and the emissions reductions in the 10 southeast Wisconsin lakeshore counties would not meaningfully impact ozone design values along the

⁹ See WDNR “Correspondence Memorandum, Ozone Air Quality Analysis for a PSD Permit for Arrowcast – Shawano,” Dated June 7, 2012: “...it is estimated that it takes from 17,349 tons per year to 25,604 tons per year of total VOC and NO_x reductions to result in a 1 ppb reduction in ozone concentration.”

¹⁰ Baker, K. R. and Kelly, J. T.: Single source impacts estimated with photochemical model source sensitivity and apportionment approaches, *Atmospheric Environment* 96, 266-274, 2014.

¹¹ Baker, K. R., Kotchenruther, R. A., and Hudman, R. C.: Estimating ozone and secondary PM_{2.5} impacts from hypothetical single source emissions in the central and eastern United States, *Atmospheric Pollution Research*, 7, 122-133, 2016.

¹² EPA’s Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program. Draft for Public Review and Comment. December 2, 2016.

¹³ EPA’s Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program. Draft for Public Review and Comment. December 2, 2016.

lake. WDNR indicated the modeling suggests that even Wisconsin's highest-emitting counties (Milwaukee and Waukesha) do not have a meaningful impact on lakeshore ozone concentrations, which is further evidence that emissions from these two counties are overwhelmed by those from the upwind regions, including the Chicago area, which emits six to seven times more NO_x and VOC.

EPA Response: The EPA addresses in the final nonattainment area TSD the conclusions reached for the sensitivity modeling cited in WDNR's April 2017 submittal and February 2018 comments. EPA also notes that the 10% emissions cut¹⁴ model simulation cannot alone be used as a contribution analysis. Due to the nonlinear nature of ozone chemistry this type of sensitivity analysis can be used to determine the impacts of the specific emissions changes modeled but cannot be used to infer the overall impact that results from total emissions from the sources in question.

Comment: WDNR commented that EPA did not include or reference WDNR's wind rose analyses, which more accurately reflect the complex lakeshore environment than does the HYSPLIT back trajectory model relied upon by EPA, and which confirms that ozone concentrations exceeding 70 ppb occur when winds originate offshore. EPA inappropriately relied on HYSPLIT back trajectories to make a connection between local emissions and locally-monitored ozone levels. WDNR believes that only the 100 m HYSPLIT back trajectories are potentially relevant when considering associations with ground-level monitored ozone levels. Most traveled over the lake (high level trajectories represent synoptic and not local flow). In contrast, direct measurements at these monitors found that, for virtually every single hour with ozone concentrations above 70 ppb, the air masses came from over the lake: from 155-185 degrees for the Harrington Beach monitor and 135-175 degrees for the Grafton monitor. The wind roses from the other lakeshore monitors showed similar results: ozone-rich air was delivered to the monitors almost exclusively from over Lake Michigan. This comparison conclusively shows that HYSPLIT underestimates the role of the lake in delivering ozone-rich air to this monitor and overestimates the impact of emissions from inland portions of the counties under discussion.

Some commenters believed there is no meaningful contribution from Racine, Washington, and Waukesha counties. Several of these commenters cited the wind roses in WDNR's April, 2017, submittal, specifically the ones from the Harrington Beach and Grafton monitoring sites which show winds from the south southeast during days in 2014-2016 with 1-hour ozone values greater than 70 ppb. These commenters also cited an April 17, 2016, HYSPLIT 48-hour back trajectory from the Bayside monitor in WDNR's submittal, showing air parcels traveling from the southeast and over the lake. Other commenters believed that the EPA HYSPLIT back trajectories support excluding Wisconsin counties since the lowest altitude trajectories are from over the lake. Specifically, one commenter believed meteorological data do not support the finding that Racine County emissions contribute (e.g. low level trajectories are mainly coming from over the lake and even on days that surface or mid to upper level air masses cross over Racine County, these air masses have crossed over the greater Chicago area with its significantly greater contribution of ozone precursors prior to crossing over Racine County. One commenter seemed to believe the location of where the back trajectories originate is indicative of where the emissions are coming from.) Another commenter thought that exceedances have only occurred on days and times when wind is carrying ozone from over Lake Michigan (and that EPA ignored this fact in its TSD). This commenter indicated that the Racine County population has declined and less than one quarter of Racine County residents commute to or through Milwaukee or Ozaukee counties, so the population and activity data indicate minimal contribution. Another commenter believed that the Milwaukee area monitors have never

¹⁴ As noted in the final nonattainment area TSD, the emissions cut to anthropogenic emissions (including on-road sources) in the sensitivity modeling described is likely closer to a 6-8% emissions reduction.

exceeded a standard when monitoring air coming from these counties, rather, the monitors are measuring ozone produced from precursor emissions generated elsewhere.

EPA Response: The EPA addressed, in the final nonattainment area TSD, the conclusions reached for both EPA's HYSPLIT trajectories and the HYSPLIT trajectories cited in WDNR's April 2017 submittal and February 2018 comments. Wisconsin's wind roses show that the wind direction for most of the near lakeshore monitors during the 2013-2016 hours of high ozone (>70 ppb) was predominately from the southeast quadrant, except as follows. For the two Sheboygan sites, the predominate wind direction was from directly south or slightly south southwest (e.g. from the direction of the Milwaukee area). For the Milwaukee Health Center site, the wind direction was often from the south southeast, but also often from the southwest. For the Door County (Newport) site, the wind direction was often from the southwest/south southwest. Wisconsin seemed to use the wind roses to conclude that since the hours of high ozone typically occur when the local wind direction at the monitors is generally (but not at all times) coming from over the lake, that the ozone is coming from precursor emissions originating out-of-state. Wind roses that depict wind speed and direction reported in surface observations can be used to estimate wind speed and frequency for the immediate area of the observation, in this case the ozone monitor site, but that representativeness diminishes with distance from the site. Extrapolating the wind pattern depicted in a wind rose to a larger area affords a great deal of influence to the wind measured at that one site, ten meters above the ground, and to any small-scale geographic influences that may affect wind at that site. The HYSPLIT trajectories used in EPA's analyses were determined by the Eta Data Assimilation System (EDAS) an archive of meteorological parameters across a nationwide grid at many vertical levels, and incorporating surface and upper-air observations as well as wind profiler, radar, and aircraft data. Unlike wind roses, HYSPLIT backward trajectories are just as representative of atmospheric conditions at a distance from the trajectory starting point as they are at the starting point. HYSPLIT trajectories based upon EDAS more accurately reflect the pertinent meteorological influences in the area under examination than does a wind rose based upon single-point observations. HYSPLIT back trajectories at starting heights 100, 500, and 1000 meters above ground level represent levels typically within the atmosphere's mixed layer at the monitor, yet above the influence of local terrain. Trajectories at these three starting heights are relevant in assessing transport of air parcels for potential contribution to ozone concentrations at the trajectory starting point. With respect to the comments regarding the lower level (100 m) trajectories, it is important to note that the lower level (100 m) trajectories do not exclusively occur over the lake.

Comment: WDNR commented that despite many lines of credible evidence provided by DNR showing that local emissions have little to no impact on areas of Wisconsin where ozone levels exceed 70 ppb, EPA's intended nonattainment areas appear designed to include as many local sources of these emissions as possible. WDNR comments that local precursor emissions do not meaningfully impact the ozone levels at the violating monitors, and therefore EPA should not consider in-state emissions contributions. WDNR also commented that in-state emissions reductions would not meaningfully impact the ozone levels at the violating monitors. For example, WDNR indicates that NO_x and VOCs from the 5-county Milwaukee area decreased by 25% and 33%, respectively, from 2008 to 2014, however, ozone design values in the Milwaukee area remained relatively flat during this period. With respect to Manitowoc County, WDNR believed that EPA should not consider emissions sources located in the county since WDNR believes emissions are low and ozone-rich air reaches the Manitowoc County monitor exclusively from over Lake Michigan (as discussed in the wind rose section above). WDNR indicated that Manitowoc County emissions are similar in magnitude to those of Ozaukee County and Door County, which, with respect to Door County, EPA concluded "do not significantly contribute to ozone concentrations in the area itself or to other areas."

EPA Response: The EPA addressed in the final nonattainment area TSD the emissions-related information cited in WDNR's April 2017 submittal and February 2018 comments. EPA notes that any emissions of NO_x and VOC have the potential to photochemically react to form ozone. Studies show that single sources of ozone precursor emissions can have measurable nearby downwind ozone impacts.^{15,16} Maximum impacts typically occur within 50-100 km (31-62 miles) from the source and can occur up to 200 km (124 miles) away from the source. Actual sources¹⁶ and hypothetical single sources¹⁷ have been analyzed for their potential downwind ozone impacts. As a high-end example, a hypothetical source in northern Illinois emitting 500 tpy of NO_x can have a maximum 8-hour downwind ozone impact of 3.88 ppb.¹⁷ As a lower end example, a hypothetical source in northwest Indiana emitting 500 tpy of NO_x can have a maximum 8-hour downwind ozone impact of 1.15 ppb.¹⁸ Therefore, it is important to evaluate nearby sources of potentially contributing precursor emissions. EPA also noted that the reference in the WI TSD provided meteorology-adjusted ozone trends covering a longer time-period (2000-2015) which do show decreasing trends in Milwaukee. Wisconsin did not provide any information on meteorology-adjusted trends for the relatively short time-period (2008-2014) discussed in their submission or address changes in contributing sources outside of the Milwaukee area over this time-period.

Regarding the comment about the magnitude of Door County emissions, given that Door County is the last (northernmost) county in the series of eastern Wisconsin counties receiving transport from upwind high-emitting urban areas like Green Bay, Milwaukee, and Chicago, EPA was able to comfortably use our discretion to classify this area as an RTA. A similar analysis and determination is not appropriate for the other areas that the commenter mentioned, specifically Ozaukee County, which is part of the Milwaukee CSA or Sheboygan and Manitowoc counties which, while they are each their own area, are immediately downwind of the Milwaukee area and each are adjacent to a metropolitan statistical area (CSA/CBSA), which disqualifies them as potential RTAs, whereas northern Door County is not adjacent to a CSA/CBSA.

Comment: Numerous commenters alluded to or expressed concerns about economic growth and business operations. In particular, one commenter expressed concern about possible implications of nonattainment such as WDNR developing SIP mandating emissions reductions from existing sources and emissions offsets for the permitting of new sources, with specific emphasis on an electronics manufacturing district planned for construction in Racine County. One commenter indicated that EPA's potential nonattainment designations impose a heavy regulatory load on businesses and industry and threaten the well-being of the state's economy. Another commenter was concerned about a negative connotation associated with and difficulty attracting new businesses and residents to nonattainment areas.

EPA Response: Under section 107(d) of the CAA, EPA is required to designate as nonattainment an area that is violating a new or revised national ambient air quality standard or that contributes to a nearby violation. EPA determines an ozone violation based on certified quality assured monitoring data. Ozone is

¹⁵ Baker, K. R. and Kelly, J. T.: Single source impacts estimated with photochemical model source sensitivity and apportionment approaches, *Atmospheric Environment* 96, 266-274, 2014.

¹⁶ Baker, K. R., Kotchenruther, R. A., and Hudman, R. C.: Estimating ozone and secondary PM_{2.5} impacts from hypothetical single source emissions in the central and eastern United States, *Atmospheric Pollution Research*, 7, 122-133, 2016.

¹⁷ EPA's Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program. Draft for Public Review and Comment. December 2, 2016.

¹⁸ EPA's Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program. Draft for Public Review and Comment. December 2, 2016.

a regional pollutant and is readily transported both short and long distances. To determine whether a nearby area is contributing to a violation, EPA recommended that states conduct a technical analysis based on a number of factors listed in the designation guidance for the 2015 ozone NAAQS, including air quality data, emissions and emissions-related data, meteorological data, and geography/topography, and jurisdictional boundaries. In evaluating whether to modify a state's designation recommendation, EPA also considered those factors. The justification for including Wisconsin counties (whole or partial) in a nonattainment area is provided in EPA's technical support document for each area. In determining whether an area should be designated nonattainment, EPA did not consider economic impacts because that is not relevant for determining whether an included area is violating the NAAQS or is a nearby area that is contributing to a violation as provided under CAA section 107(d). In determining how best to manage air quality in nonattainment areas in order to meet NAAQS, to the extent the CAA does not mandate specific control measures, states may consider economic concerns in development of their state implementation plans.

Milwaukee, WI

Comment: In addition to WDNR, several parties commented specifically on the Milwaukee intended nonattainment area. Some of their comments are addressed in the final TSD and other comments are addressed below. These commenters generally wanted EPA to designate Wisconsin as attainment or reduce the size of the intended nonattainment area(s). It should be noted that one commenter represented portions of Ozaukee, Washington, Sheboygan, Fond du Lac, and Calumet counties. Some of these commenters did not want Waukesha, Washington, and Racine County and another commenter did not want the City of Waukesha to be included in the nonattainment area. Some of these commenters believed if there is a nonattainment boundary, it should be very similar to the narrow strips of land from the shoreline inland encompassing the violating monitors per the technical analysis document submitted to EPA by WDNR on April 7, 2017. Commenter 0266 specifically requests that EPA reconsider Racine County's intended designation status or, in the alternative, reduce the geographic boundary of the proposed nonattainment zone. These commenters provided the following supporting information, which EPA addresses below along with WDNR's additional comments that were specific to the Milwaukee area:

Comment: WDNR commented that EPA inappropriately included counties with attaining monitors (e.g. Waukesha County) as part of intended nonattainment areas. Some commenters indicated that one or more of the following counties did not have violating monitors: Washington, Waukesha, and Racine.

EPA Response: Waukesha, Washington, and Racine counties were not included in EPA's intended Milwaukee nonattainment area based on monitoring data. These counties, like other counties with attaining monitors (in other nonattainment areas) across the country, were included based on an initial contribution analysis as described in EPA's 2015 intended ozone designations for Wisconsin TSD. EPA determines nonattainment areas based on violating monitors and nearby areas that may be contributing based on a 5-factor "weight of evidence" analysis. EPA's TSD goes into detail on the contribution analysis, which is why Waukesha, Washington, and Racine counties are included in the intended nonattainment area. While the monitoring data from Racine County was not considered in EPA's analysis due to the lack of a 2014-2016 design value, it is worth noting that the 2015 4th high is 68 and the 2016 4th high is 76. The preliminary 2017 4th high is 80, which results in a preliminary 2017 DV of 74 ppb (with truncation).¹⁹ Due to a dilapidated building presenting unsafe working conditions, EPA allowed WDNR in 2013 to shut down and move the Racine County monitor to a new location approximately 5 miles north

¹⁹ The specific methodology for calculating the ozone design values, including computational formulas and data completeness requirements, is described in 40 CFR part 50, appendix U.

of its original location where a monitor had been located since 1977. WDNR was unable to get the monitor up and running at its new location prior to the start of the 2014 ozone season causing the gap in continuous ozone data for Racine County.

Comment: To one commenter it appeared EPA proposed to include the 5-county area because EPA considered the 5 counties collectively to be one statistical area. Commenter pointed to EPA designations guidance explaining that EPA methodology typically starts with a CSA or CBSA but that each area is analyzed on a case-by-case basis and asks that EPA use its discretion to designate a smaller area for the Milwaukee nonattainment area based on supporting info (see other comments and responses with respect to the supporting info from this commenter).

EPA Response: As per our long-standing practice, EPA typically starts with the larger of the CSA or the CBSA as the area of analysis for ozone nonattainment area designations.²⁰ The Milwaukee CSA is an 8-county area. EPA's final TSD addresses why the final nonattainment area is smaller than the CSA.

Comment: A couple of commenters noted that the Milwaukee area experiences lake breeze meteorology just like Sheboygan and Manitowoc counties and commenter did not think that EPA addressed the lake breeze meteorology with respect to the Milwaukee area. One commenter indicated, "It is WDNR's opinion that because pollutants travel exclusively on coastal breezes and are detected by monitors in close proximity to the coastline, it is unfair to use data from these monitors as justification for county-wide non-attainment designations. This is an assessment shared by the EPA regarding the Sheboygan County coastal air monitor. Because the EPA has already demonstrated agreement with this justification for Sheboygan County, it should apply that same determination to Ozaukee County air monitors."

EPA Response: That the Milwaukee area experiences lake breeze meteorology is addressed in EPA's final TSD for the nonattainment area. EPA's 5-factor contribution analysis, which included consideration of lake breeze meteorology and local precursor emissions, started with the 8-county Milwaukee CSA. That an area experiences lake breeze meteorology is alone not mutually exclusive with a determination that an area may also contribute to its own ozone violations. Sheboygan and Manitowoc are separate areas. For each area (Sheboygan and Manitowoc), the initial area of analysis was the full county. For each, the 5-factor contribution analysis included consideration of lake breeze meteorology and local precursor emissions. EPA notes that a reason EPA was able to justify honoring Wisconsin's request to reduce the size of the Sheboygan County area from a full county to a partial county area is the existence of the second ozone monitor in Sheboygan county which is attaining the standard coupled with WDNR's lake breeze inland penetration distance analysis specific to the two Sheboygan County monitors. EPA extended that reasoning to Manitowoc County (despite Manitowoc not having an inland attaining monitor), since Manitowoc County is adjacent to and immediately north of Sheboygan County.

Comment: Some commenters indicated that the LADCO source apportionment modeling in the WDNR submittal shows approximately 20% contribution from international transport and commenter indicated that photochemical modeling from the Midwest Ozone Group shows this as well. Two commenters stated the following: "Notwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator that, with respect to an ozone nonattainment area in such State, such State would have attained the national ambient air quality standard for ozone by the applicable attainment date, but for emissions emanating from outside of the United States, shall not be subject to the provisions of section 7511(a)(2) or (5) of this title or section 7511d of this title [of the CAA, and] since Wisconsin has shown, clearly, that more than 20% of the ozone concentration at violating monitors is from sources outside of

²⁰ <https://www.epa.gov/ozone-designations/epa-guidance-area-designations-2015-ozone-naaqs>

the United States, our state qualifies for this relief. As a result, U.S. EPA should make clear that those provisions of the Clean Air Act will not apply to the proposed nonattainment zones in any final action on this matter.” One commenter believed the EPA should find that Wisconsin qualifies for the exemptions set forth in Section 179b of the CAA related to areas impacted by international emissions.

EPA Response: It should be noted that the commenters seem to be interpreting “BC” or “boundary conditions” as contributions from outside the U.S., in reality, boundary conditions are a mix of international and natural sources as well as some recirculation from the U.S. However, as several commenters identify, the language in section 179B(b) of the CAA may provide regulatory relief “...with respect to an ozone nonattainment area...” if the affected state can establish “to the satisfaction of the Administrator” that the subject area “would have attained the [NAAQS] but for emissions emanating from outside of the United States...” While CAA section 179B recognizes the possibility that certain nonattainment areas may be impacted by ozone or ozone precursor emissions from international anthropogenic sources beyond the regulatory jurisdiction of the state, section 179B applies to designated *nonattainment* areas and does not provide the authority to exclude monitoring data influenced by international transport from regulatory determinations related to attainment/nonattainment, including area designations for new NAAQS. Similarly, section 179B does not provide the authority to classify an area with a lower classification than indicated by actual air quality or relax any mandatory control measures associated with the area’s classification. For designated nonattainment areas, an approved “but for” analysis prepared under section 179B(a) as part of an attainment plan/demonstration provides relief from attainment plan disapproval and any accompanying sanctions or Federal Implementation Plan. An approved “but for” analysis prepared under section 179B(b)-(d), as part of an attainment determination, provides relief from a finding of failure to attain and reclassification (e.g., relief could come in the form of certain fee provisions (section 185) or relief from bump-ups).²¹

The EPA notes that while Wisconsin, and other similarly situated states, are not entitled to relief under section 179B prior to designations for the 2015 ozone NAAQS, they may qualify for relief under the exceptional events provisions in section 319 of the CAA and the implementing regulations (i.e., the Exceptional Events Rule) codified at 40 CFR 50.1, 50.14 and 51.930. The CAA recognizes that when “exceptional” events cause exceedances or violations of the NAAQS that subsequently affect certain regulatory decisions, including area designations, the normal planning and regulatory process established by the CAA may not be appropriate. The Exceptional Events Rule provides a mechanism by which an air agency can request the exclusion of event-influenced air quality data. Once EPA determines that an event is “exceptional” under CAA section 319, it will exclude the data directly influenced by that event and base its subsequent regulatory determination on the remaining monitoring data. Transported emissions (or naturally-occurring ozone, in the case of stratospheric intrusions) from natural sources such as wildfires or stratospheric ozone intrusion could qualify for data exclusion under the Exceptional Events Rule.

The EPA encourages affected air agencies to coordinate with their EPA Regional office to identify approaches to evaluate the potential impacts of international transport and to determine the most appropriate information and analytical methods for each area’s unique situation. The EPA will also work with states that are developing attainment plans for which section 179B is relevant, and ensure the states have the benefit of the EPA’s understanding of international transport of ozone and ozone precursors. To assist in this effort, EPA is currently developing or has developed the following implementation tools to

²¹ The regulatory relief associated with attainment plans and demonstrations and provided in CAA section 179B(a) applies to all NAAQS pollutants. Sections 179B(b)-(d) contain essentially the same regulatory relief provisions related to attainment determinations, but the sections apply to different pollutants with 179B(b) applying to ozone, 179B(c) applying to carbon monoxide and 179B(d) applying to particulate matter.

help states assess the potential contributors to transported ozone: ozone/wildfire exceptional events implementation guidance,²² stratospheric ozone intrusion exceptional events implementation guidance,²³ and technical guidance on preparing approvable demonstrations under CAA section 179B.²⁴

Comment: One commenter indicated that Racine, Waukesha, and Washington County emissions are decreasing ozone formation at the Ozaukee County monitors and commenter 0247 is concerned that EPA has not accounted for the “dis-benefit” of controlling NO_x in these three counties.

EPA Response: No evidence was submitted to support the idea that precursor emissions from Racine, Waukesha, and Washington County are responsible for reducing ozone concentrations detected at the Ozaukee County monitors. Perhaps the commenters are referring to NO_x scavenging? High NO_x concentrations found in downtown metropolitan areas, especially near busy streets and roads, and in power plant plumes, can result in scavenging (sometimes referred to as titration) of ozone by reaction with NO to form NO₂ leading to localized depletion of ozone. However, as urban plumes are transported and diluted, this NO₂ can lead to photochemical production of ozone downwind of the source areas. In addition, in areas that experience localized titration chemistry, this impact can often be reversed with large enough reductions in local NO_x emissions. Perhaps the commenters are referring to NO_x-sensitivity versus VOC-sensitivity with respect to ozone formation? After a portion of a state is designated as nonattainment, the state is responsible for attainment planning requirements including reductions in precursor emissions. The state has some discretion when meeting the CAA requirements with respect to focusing control efforts on the precursor emissions that will be most effective in reducing ozone concentrations. The state may investigate whether an area is NO_x-sensitive, VOC-sensitive, or transitional, and focus precursor emissions reductions efforts accordingly.

Comment: One commenter thought specific days from 2016 with high ozone should be excluded from the Wisconsin monitoring data due to impacts from Canadian wildfires and references EPA Exceptional Event request packages put together by the state of New Jersey and the state of Maryland containing evidence that Wisconsin air quality was impacted by these wildfires.

EPA Response: The CAA and EPA implementing regulations, specifically the Exceptional Events Rule codified at 40 CFR 50.1, 50.14 and 51.930, allow for the exclusion of air quality monitoring data when making certain regulatory determinations (including attainment/nonattainment decisions for new NAAQS) when there are exceedances caused by certain event-related influences, including wildfires. To exclude event-influenced data under the Exceptional Events Rule, the affected air agency must prepare a demonstration that meets the technical criteria and the schedule and procedural requirements in the rule. Specifically, under the Exceptional Events Rule, a demonstration must contain the following five elements: a narrative conceptual model, evidence of a clear causal relationship between the specific event and the monitored exceedance or violation (supported in part by a comparison to historical concentrations), evidence that the event was not reasonably controllable or preventable, evidence that the event was due to human activity that is unlikely to recur at a particular location or was a natural event and documentation that the air agency conducted a public comment process and addressed comments received, as necessary. While multiple air agencies and states affected by the same event can share the analyses and/or narrative to support some of these required elements, other analyses and procedural steps (e.g., the causal relationship between the event and the affected monitor and the authorizing official) will likely be different for each air agency. Simply referencing another air agency’s demonstration for a

²² Currently available at <https://www.epa.gov/air-quality-analysis/exceptional-events-rule-and-guidance>

²³ under development

²⁴ under development

claimed shared event does not meet the requirements of the Exceptional Events Rule. Further, Wisconsin did not submit any requests for data exclusion under the Exceptional Events Rule related to initial area designation decisions for the 2015 ozone NAAQS.

Comment: Some commenters indicated that EPA photochemical modeling predicted that all Wisconsin monitors will remain in or reach attainment of the 2015 ozone NAAQS by 2023 and suggest that this supports reducing the size of the intended Milwaukee nonattainment area. Commenter 247 specifically notes that this photochemical modeling prediction is based on “on the books” controls (without any 2015 ozone NAAQS implementation regulations) and therefore does not include additional emissions reductions from Racine, Waukesha, or Washington counties.

EPA Response: EPA does not believe the CAA authorizes NAAQS designations based on future air quality estimates where current valid air quality monitors indicate violations of the NAAQS. Also, it should be noted that not all Wisconsin monitors are projected to attain the 2015 ozone NAAQS by 2023 (see EPA’s March 27, 2018, transport memo).²⁵

Comment: With respect to WDNR resources, one commenter expressed concern that a Milwaukee area nonattainment designation would result in resources being allocated to administrative burdens at the expense of limiting resources dedicated to scientific research designed to find solutions to ozone pollution (e.g. participation in the Lake Michigan Ozone Study).

EPA Response: The Lake Michigan Ozone Study of 2017 involved on the order of \$1.3 million in funding from various organizations including the National Aeronautics and Space Administration (NASA) (~46%), the National Science Foundation (NSF) and university research groups (~26%), the National Oceanic and Atmospheric Administration (NOAA) (~9%), the Electric Power Research Institute (EPRI) (~8%), the Environmental Protection Agency (~7%) and WDNR/LADCO (~4%). While States can receive up to 60% of their air pollution control program funding from an EPA grant, the states determine how to best allocate the federal and state resources available to meet federal requirements and protect human health and the environment. Nonattainment area planning and scientific research designed to investigate solutions to ozone pollution go hand in hand.

Comment: One commenter thought that Racine County is similar to Sheboygan, Manitowoc, and Kenosha counties with respect to emissions, population density, VMT, etc. and should be treated similarly.

EPA Response: Racine County is part of the Milwaukee CSA and therefore not a single county initial area of analysis like Sheboygan and Manitowoc. Racine County is upwind of the violating monitors in the Milwaukee area of analysis, whereas Kenosha County is the downwind-most county of the Chicago area of analysis and contains two violating monitors. See other comments and responses above for information on and why EPA was able to propose partial county nonattainment areas for Sheboygan and Manitowoc.

Comment: One commenter who resided in Milwaukee and was affected by ozone pollution, noted that ozone pollution has a direct effect on the commenter’s physical well-being and longevity. This commenter was also affected by the imposition of ozone pollution regulations by being subject to motor vehicle emissions testing. The commenter cited a news article referring to Wisconsin’s request to set aside a recent federal finding that southeast Wisconsin is violating new and tougher emissions standards for smog and conclude the state is complying with the law. Short of that, the state is recommending federal

²⁵ <https://www.epa.gov/airmarkets/march-2018-memo-and-supplemental-information-regarding-interstate-transport-sips-2015>

officials carve out narrow strips of land of a few miles along the Lake Michigan shoreline as violating the new standard for ozone pollution and declare the rest of the state in compliance. The commenter believed that this request to weaken air pollution regulations in southeast Wisconsin should be denied. The commenter believes the citizenry of Wisconsin has paid too much of a price to attract a foreign manufacturing corporation, Foxconn, to locate in southeast Wisconsin. The commenter believed that no matter how much Wisconsin elected officials want this corporation to do business in Wisconsin, this corporation must be required to do business in the same manner as all other Wisconsin and U.S. businesses, which means its operations cannot be exempted from engaging in environmentally destructive activities. The commenter asked EPA to enforce the standards already in place and to do no more than what EPA is tasked to do and is already doing.

EPA Response: The commenter seems to be referring to Wisconsin's recommendation that EPA foremost designate the entire state as attainment of the 2015 ozone NAAQS or, barring that, only narrow parcels of nonattainment land encompassing the violating monitors near the shoreline of Lake Michigan. The commenter also seems to be referring to EPA's intent to designate some part of the Milwaukee area as nonattainment of the 2015 ozone NAAQS based on our analysis of violating monitors and nearby contributing areas. EPA acknowledges the receipt of this comment. EPA's final nonattainment area for Milwaukee is addressed in the final TSD for the Wisconsin nonattainment areas. In this analysis EPA has done no more than it is tasked with doing, which is to, in accordance with CAA section 107(d), designate as nonattainment all areas with monitor[s] that is [are] violating the 2015 ozone NAAQS and nearby areas that contribute to the violation[s].

Sheboygan County, WI

Comment: A couple of commenters believed the entirety of Sheboygan County should be designated attainment. However, if EPA designates part of the county as nonattainment, one commenter provided a list of roadways which create a narrower nonattainment boundary than EPA's intended boundary (see docket for specific roadways). This commenter also provided a list of roadways which create a narrower nonattainment boundary than EPA's intended boundary (see docket for specific roadways). Several commenters believed that the Kohler Andrae monitor in Sheboygan county is improperly sited. Specifically, one of these commenters indicated that this monitor is upwind of the majority of Sheboygan County sources and dominated by out-of-state transport, and a commenter indicated that it is misplaced according to a 1998 EPA document.²⁶ Two commenters indicated the Haven monitor (as opposed to the Kohler Andrae monitor) is properly sited downwind and measuring air from activity within the county. One commenter believed the Haven monitor should be the only monitor used for regulatory purposes in Sheboygan County and one commenter believed EPA should disregard the Kohler Andrae monitor. One commenter indicated that the LADCO modeling (WDNR April submittal) shows the entire state of Wisconsin contributes less than 10% of ozone measured at Kohler Andrae monitor. One commenter attached the 2017 LADCO white paper on the Lake Michigan Ozone Study²⁷ to a comment letter indicating that the commenter believes the Kohler Andrae monitor is reading 98% ozone that has been transported from outside Sheboygan County and that Sheboygan County NO_x emissions account for 2% of the total NO_x emissions in Wisconsin.

²⁶ U.S. Environmental Protection Agency, "GUIDELINE ON OZONE MONITORING SITE SELECTION." EPA-454/R-9 8-002, August 1998.

²⁷ Pierce, B., Kaleel, R., Dickens, A., Bertram T., and Stanier, C., Kenski D.: White Paper: Lake Michigan Ozone Study 2017 (LMOS 2017), <http://www.ladco.org/>, 2016.

With respect to Sheboygan County, while WDNR recommended attainment for the entire state as per the Governor's recommendation, if EPA designates a portion of Sheboygan County as nonattainment, WDNR believed that the boundary should be based on the distance from shore approach and no more than 2.3 miles inland, which is a location consistent with the best-fit line (70 ppb contour) developed by WDNR. If EPA does not set the boundary at 2.3 miles inland, then WDNR believed it should be no more than 2.9 miles inland, which is the location determined by comparison of design values at Sheboygan's two ozone monitors as described in DNR's April 2017 TSD. Wisconsin did not want the boundary to be 3.2 miles inland (based on the location of the Haven monitor) nor based on roadways like EPA intends, since the Haven monitor has a design value of 69, indicating to Wisconsin that the attainment level air quality would be found between this monitor and the lakeshore and that that any nonattainment area boundary should be to the east of this monitor. Wisconsin also states that Sheboygan County ozone concentrations are heavily impacted by out-of-state transport and unfavorable meteorological and geographic factors and are not affected by local sources of emissions. Industrial emissions comprise less than 10% of county NO_x and VOC emissions and are already well controlled. The county's largest source of NO_x emissions (Edgewater Generating Station) has significantly reduced emissions since 2011 and forecasts even more dramatic reductions in future years.

EPA Response: The EPA addresses in the final nonattainment area TSD the conclusions reached for the final boundary for the Sheboygan area, including our review of information provided in WDNR's April 2017 submittal and February 2018 comments.

Regarding the comments referring to the siting of the violating monitor, 40 CFR part 58, Appendix D, provides network design criteria including site types and siting scales (Table D-1). WDNR has designated the Sheboygan-Kohler site as a regional transport/maximum ozone concentration site and the Sheboygan-Haven site as a population exposure site in both its EPA-approved annual network plan and in EPA's Air Quality System. Wisconsin's annual network plan was approved by EPA on September 1, 2017 and includes statements affirming compliance with 40 CFR part 58, Appendix E, Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring for each site in Wisconsin's ambient monitoring network, including the Sheboygan-Kohler monitoring site and the Sheboygan-Haven monitoring site. The upwind urban region (as described in the 1988 guidance) for the Sheboygan-Kohler regional transport/maximum ozone concentration site is not specified in the annual network plan. However, one could surmise that the urban region could be the Milwaukee area based on the following: Ozone is a secondary pollutant formed over some time and space from the sources of ozone precursor emissions. It is, therefore, likely that it is measuring ozone formed predominately from upwind precursor sources in Milwaukee which is about 60 miles south of Sheboygan, and in the Chicago area, which is farther south. With respect to LADCO's source apportionment modeling, a 10% contribution is approximately 8 ppb of ozone.

Manitowoc County, WI

Comment: WDNR estimated the geographic extent of nonattainment is no more than 2.9 miles inland for Manitowoc County (other comments regarding Manitowoc were summarized and addressed above).

EPA Response: The EPA addresses in the final nonattainment area TSD the conclusions reached for the final boundary for the Manitowoc area, including our review of information provided in WDNR's April 2017 submittal and February 2018 comments. EPA notes that a reason EPA was able to justify honoring Wisconsin's request to reduce the size of the Sheboygan County area from a full county to a partial county area is the existence of the second ozone monitor in Sheboygan county which is attaining the standard coupled with WDNR's lake breeze inland penetration distance analysis specific to the two

Sheboygan County monitors. EPA extended this reasoning to Manitowoc County (despite Manitowoc not having an inland attaining monitor), since Manitowoc County is adjacent to and immediately north of Sheboygan County.

Door County, WI

Comment: Both WDNR and the Door County Administrator agreed that the Door County area should be a rural transport area, but that the nonattainment area boundary should be the Newport State Park boundary. The Door County Administrator did not believe (based on WDNR analysis) that ozone penetrates farther inland than the Newport State Park Boundary. Commenter indicates that EPA HYSPLIT trajectories indicate all emission tracks causing the violation at the Door County monitor to be outside of the Door County land base except when the emissions reach Newport State Park. Commenter adds, “The photochemical model projections of 2017 design values along the western Lake Michigan shoreline prepared by LADCO project the entire Door County land mass to be outside of the nonattainment area. (See: Figure 4.1 at page 16 of DNR’s Technical Support Document.)” This commenter was concerned about Door County economy which is heavily dependent on tourism. Commenter wants the nonattainment boundary to be the boundary of the state park. WDNR asked EPA to exclude all the offshore islands in Door County since WDNR believes there is no recognized benefit to designating them as nonattainment and indicates that EPA has similarly excluded islands from its nonattainment area designations for Ventura County, California for the 2008 ozone NAAQS (insert citation). Supporting information provided by WDNR included the following: Only two of EPA’s 100 m back trajectories passed over Door County, with the remainder passing over the lake indicating that the elevated ozone levels measured at the ground level at the Newport monitor result from air being transported over the lake from the south. Door County emissions are low and most of these emissions come from sources that the state cannot control: 53% of NO_x from commercial marine vessels on Lake Michigan and 61% of VOC emissions from recreational vehicles and pleasure craft.

This commenter noted specific concerns about negative public perception of poor air quality and the local economy which is heavily dependent on tourism. (maybe move this and lump together will all area comments regarding economic concerns and business operations and growth)

EPA Response: The EPA addresses in the final nonattainment area TSD the conclusions reached for the final boundary for the Door County area, including our review of information provided in WDNR’s April 2017 submittal and February 2018 comments.

3.2.6. EPA Region VI

3.2.6.1 Louisiana

Comment: The State of Louisiana commented that it submitted to EPA a Notice of Potential EE for Ozone for the dates September 13-14, 2017 and that it intends to submit an EE demonstration to EPA for approval. The State requested that an extension of up to one year be provided by the Administrator to make a final determination on the EE demonstration, or in the alternative, a designation of Unclassifiable until a final determination on the EE demonstration can be made.

Response: We have reviewed the EE demonstration proposed by Louisiana and the final EE demonstration for air quality data received on April 3, 2018. On April 13, 2018, the EPA concurred on the EE demonstration submitted by Louisiana for the ozone monitor known as the “Dutchtown” monitor in Ascension Parish. The documents associated with the demonstration, including the EPA’s concurrence letters to Louisiana regarding the early certified data for 2017 ozone data and the EE demonstration, are

provided in the docket for this action. With our concurrence on the EE demonstration, the Dutchtown monitor in Ascension Parish was found to meet the 2015 ozone NAAQS for the 2015-2017 period. Because all ozone monitors in the Baton Rouge area are meeting the 2015 ozone standard with 2015-2017 data, we are finalizing a designation of attainment/unclassifiable for the 9 parishes in the Baton Rouge, LA Core-Based Statistical Area.

Comment: A commenter asserted that the weight-of-evidence and the EPA's guidance require the agency to include Pointe Coupee Parish as part of the Baton Rouge nonattainment area. The commenter presented a number of reasons why it believes emissions in Point Coupee are contributing to a violation of the 2015 NAAQS in the Baton Rouge area, mostly relating to emissions from the Big Cajun II (BCII) power plant.

Response: As noted in the previous response, based on the most recent three years of air quality data, all monitors in the Baton Rouge area are attaining the 2015 ozone NAAQS and the EPA is designating the area as attainment/unclassifiable. Because there are no violations at any of the monitors in the Baton Rouge area, the EPA does not need to perform a five-factor analysis to determine whether other counties are contributing to such a violation. Thus, no response is needed with regard to the contribution arguments being made by the commenter.

3.2.6.2 *New Mexico*

Dona Ana County, NM

Comment: A commenter asserted that El Paso County should be included in the Doña Ana nonattainment area and provides the following statements: the EPA identifies Mexico as the largest source of emissions into the monitor in Las Cruces, but El Paso contributes considerably more emissions than all of Doña Ana County; El Paso has far larger point sources than does the proposed nonattainment area; El Paso County has four times the population of all of Doña Ana County. The commenter stated that El Paso contributes too much to the ozone violation in Las Cruces to isolate the nonattainment area to this tiny corner of Doña Ana County. The commenter claimed that to give Las Cruces the greatest opportunity to reduce emissions from sources within the United States and meet the standard, El Paso must be part of the nonattainment area.

EPA Response: We disagree with the commenter's assertion that El Paso must be a part of the nonattainment area. Our TSD for El Paso, Texas and Doña Ana County, New Mexico (EP-NM TSD) contains a five-factor analysis that discusses this conclusion. The commenter provided no additional data to support their position regarding contribution to the violating monitor or for the EPA to review that would cause us to reconsider our conclusions.

Comment: Several Commenters supported the intended designation of attainment/unclassifiable for El Paso, County, TX.

EPA Response: The EPA appreciates the commenter's views. The EPA is finalizing the boundary for the Doña Ana County, New Mexico Area as provided in the December TSD.

Comment: Other commenters asserted that because El Paso County is in attainment with the 2015 ozone NAAQS, the designation should be Attainment rather than Attainment/Unclassifiable.

EPA Response: We refer the commenter to our February 25, 2016 guidance memo "Area Designations for the 2015 Ozone National Ambient Air Quality Standards," (footnote 1) that explains what we mean by "attainment/unclassifiable":

“For initial area designations for the 1997 ozone NAAQS and the 2008 ozone NAAQS, the EPA used a designation category of “unclassifiable/attainment” for areas that were monitoring attainment and for areas that did not have monitors but for which the EPA has reason to believe were likely attainment and were not contributing to nearby violations. The EPA reserved the category “unclassifiable” for areas where the EPA could not determine based on available information whether the area was meeting or not meeting the NAAQS and the EPA had not determined that the area contributed to a nearby violation. While states can submit recommendations identifying areas as “attainment,” the EPA expects to continue to use the “unclassifiable/attainment” category for designations for the 2015 NAAQS.²⁸”

3.2.6.4 Texas

Dallas-Fort Worth, TX

Comment: A commenter supports the EPA's intended designation for the Dallas-Fort Worth area, and provides examples of emission reduction measures implemented in the area. The commenter believes we will finalize designations based on 2015-2017 ozone monitoring data. The commenter states that the EPA should continue to develop procedures and guidance addressing Exceptional Event and Clean Air Act section 179(b) demonstrations.

Response: The EPA appreciates the commenter's views and supports emissions reductions measures undertaken by TCEQ in collaboration with industry and the community; this work has and will continue to assist the area in reducing NO_x, total VOCs, and Highly Reactive VOCs, that are precursors to ozone formation. The EPA encourages the continuation and development of these and future emissions reductions efforts with the TCEQ.

As noted in the designations guidance, the EPA is basing these final designations on air quality monitoring data for the 2014-2016 time period because this is the most recent certified data available for this area.

Comment: A commenter asserts that the EPA should include in its 2015 ozone NAAQS nonattainment designation for DFW the nearby East Texas coal-fired electric generation units (“EGUs”)—Martin Lake in Rusk County, Monticello and Welsh in Titus County, Big Brown in Freestone County, and Limestone in Leon County. The commenter states that properly drawing the lines of the 2015 ozone nonattainment boundaries is a critical first step in bringing all of the contributing areas to the table and achieving healthy air quality for the DFW area. The commenter provides two sets of modeling simulations and asserts that if these five East Texas EGUs reduce coal burning or install “end of the pipe” pollution controls to reduce NO_x, there would be meaningful reductions in ozone levels in the DFW area and the potential for other public health co-benefits across Texas. The commenter notes that Texas has failed to attain health-based standards for ozone pollution in the DFW area and cites the EPA's proposal to reclassify the area to Severe under the 1997 ozone standard (see 80 FR 8274, February 17, 2015). The commenter asserts that where nearby sources are “sufficiently” contributing to nonattainment, the EPA and the courts have recognized that those areas may be designated as nonattainment even if they are not immediately adjacent

²⁸ More recently, the EPA has determined to reverse the order of the terms and refer to such areas as “Attainment/Unclassifiable” as found in the Designations Guidance and previous ozone designations. This change in phrasing has no substantive effect but will improve public understanding and make clearer what regulations apply to areas designated in this way, which some states have suggested is important for the economic development of such areas.

to the jurisdictional boundary of the violating monitor. Finally, the commenter states that between the high levels of ozone precursors emitted by these five EGUs and the minimal NO_x controls on their largest sources, the “emissions data” factor weighs heavily towards including these counties in the DFW nonattainment area.

The Commenter provided a study by Haley, et al, asserting that retrofitting or closing the 5 coal plants would result in a 5 ppb drop in ozone levels at the DFW ozone monitors.

EPA Response: The EPA disagrees with the commenter that it is necessary to designate Rusk, Titus, Freestone, and Leon Counties as part of the DFW nonattainment area. As provided in EPA’s February 2016 Designation Guidance, the EPA begins its analysis of the appropriate area to designate as nonattainment by looking at the areas within the CSA or CBSA. EPA has determined that the CSA or CBSA is a reasonable representation of which areas may be “nearby” for purposes of determining contribution. The four counties mentioned by the commenter - Rusk, Titus, Freestone, and Leon Counties – are not in the DFW CSA and thus EPA did not analyze these areas for purpose of the 120-day notification sent to the State in December 2017. While EPA is not precluded from looking at counties outside the CSA or CBSA, EPA does not agree that it should do so here. Three of the four counties do not adjoin the CSA – i.e., Leon, Rusk and Titus Counties are separated from the CSA by at least one other county that is also not part of the CSA. Thus, even if emissions from these counties do “contribute” to exceedances of the ozone standard at violating monitors in the DFW area, EPA does not agree that they should be considered “nearby.” Freestone County is adjacent to the CSA and while there are no geographical or topographical features limiting air pollution transport, Freestone is not adjacent to a county with a violating monitor; thus we do not consider Freestone to be nearby. Even if Freestone were considered nearby, however, we do not believe the five-factor analysis would support modifying the state recommendation by including Freestone County as part of the DFW nonattainment area, as explained in EPA’s TSD for this area. Furthermore, we have recently been provided information that Luminant has permanently retired the Big Brown Units 1 and 2 boilers (Electric Generating Units or EGUs in Freestone County), and the associated air permit cancellation request is provided in the docket for this action. Based on the 2014 National Emissions Inventory (NEI), the retired Big Brown units emitted approximately 5,087 tpy of NO_x or 45 percent of the county-wide NO_x emissions, and 76 tpy of VOC or one percent of the county-wide VOC emissions. Thus, the NO_x emissions in Freestone County are substantially less than those in the emissions inventories and reports submitted by the commenter. Finally, Freestone County is not part of a previously established nonattainment boundary and is not served by the metropolitan planning organization that operates in the DFW CSA.

The modeling provided by the commenter predicted that 90 to 100 percent reductions of power plant NO_x at all five EGUs could reduce the Denton Airport ozone design value by approximately 4 ppb. There are two issues with this modeling. First, the modeling addresses emissions from four counties combined. We cannot determine from the modeling what the contribution might be from an individual county. This is not consistent with EPA’s county-by-county analysis for determining contribution. In addition, as already noted in part, we have recently been provided information that Luminant has permanently retired the Monticello Units 1, 2, and 3 boilers (in Titus County) and Big Brown Units 1 and 2 boilers, which reduces the emissions from Titus and Freestone Counties well below the modeled levels.²⁹ While the modeling provided by the Commenter predicts a drop of 5 ppb through closure of the 5 referenced power plants at the DFW ozone monitors, which would help for future emissions reductions, the retirements of the facilities in Titus and Freestone Counties, as described above, reduces the emissions from those counties below the modeled levels and thus, the submitted modeling does not reflect ozone contributions that are consistent with current emissions levels

²⁹ The associated air permit cancellation requests are provided in the docket for this action. The TCEQ’s cancellation of the permit authorizations for Monticello Units 1, 2, and 3 boilers are also in the docket.

Comment: A commenter supports the EPA's proposed nonattainment designation for Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties and urges the EPA to finalize its designation expeditiously. The commenter urges the EPA to include specific recognition of the contribution of oil and gas emissions to the unhealthy ozone levels in the Dallas-Fort Worth area, and to work with the State to implement robust controls on such activities. The commenter asserts that EPA's failure to mention oil and gas emissions as a contributor to unhealthy ozone levels in the area is a major omission. The commenter also contends that state, the EPA, and independent data clearly demonstrate that emissions from oil and gas facilities are a large contributor of NO_x and VOC emissions in the DFW area.

The commenter states that oil and gas activities in the 10 nonattainment counties were responsible for 5,328 tpy of NO_x emissions and 14,947 tpy of VOC emissions. The commenter urges the EPA to note such contributions in its final designation. The commenter urges the EPA and the state to evaluate and implement all available cost-effective means to reduce oil and gas emissions, including implementing the oil and gas CTGs and establishing robust pollution control standards for existing oil and gas operations. The commenter asserts that these measures are required regardless of the specific nonattainment area designation (i.e., Marginal or Moderate) as in either instance the poor air quality in the DFW area threatens human health and welfare.

EPA Response: We appreciate the technical information provided by the commenter and acknowledge the Commenter's support of our intended designation of nonattainment for the DFW area. However, as provided in the TSD for the DFW Area, we have determined for purposes of the final designation to accept the State's recommendation that Rockwall not be included as part of the nonattainment area. Assuming the oil and gas emissions provided by the Commenter are accurate, such contributions provide approximately 10 percent of the VOC emissions and less than 4 percent of the NO_x emissions in the 10-county area proposed as nonattainment. Consistent with the CAA, the State is responsible for addressing emission sources in each of its nonattainment areas. The State may choose to implement more stringent controls than required by the Act in a nonattainment area, but the EPA has no authority to require controls more stringent than those mandated by the CAA.

Houston-Galveston-Brazoria, TX

Comment: A commenter supported EPA's intended designation for the Houston-Galveston-Brazoria (HGB) area, and provides examples of emission reduction measures implemented in the area. The commenter assumed we will finalize designations based on 2015-2017 ozone monitoring data. The commenter stated that EPA should continue to develop procedures and guidance addressing EE and CAA section 179(b) demonstrations.

EPA Response: The EPA appreciates the commenter's views. Our analysis of air quality data is based on ambient air monitoring data for the period from 2014 – 2016, which is the most current certified data for this area. The State is not required to certify data from 2017 until May 1, 2018.

Comment: A commenter urged EPA to take additional measures to address emissions from neighboring counties whose emissions contribute to ozone exceedances in the HGB area and consider expanding the nonattainment area to neighboring counties whose emissions contribute to such exceedances. The commenter supports designating nonattainment areas for the 2015 ozone standard from a minimum baseline of the 2008 ozone standard. The commenter claimed that more aggressive action is required to bring the HGB area into attainment. The commenter stated that although a regional approach to air quality

has proven effective in reducing emissions, the 2015 ozone nonattainment areas should include all area counties that contribute to elevated levels of ozone in the Houston region.

EPA Response: The nonattainment designation determinations are based on a weight of evidence analysis that takes into consideration the five factors of air quality, emissions, meteorology, geography and topography, and jurisdictional boundaries. Based on the five-factor analysis, EPA identifies whether all of the counties violating the NAAQS and those nearby counties contributing to air quality at the violating monitors are included in the nonattainment area. The final TSD in the docket for this action describes this five-factor analysis of the counties in the HGB combined statistical area. Based on the five-factor analysis and considering the recommendation made by the State, EPA has designated six counties as part of the nonattainment area. The commenter does not identify any specific counties to be included in the area nor does the commenter provide any technical analysis supporting inclusion of additional counties. To the extent the commenter is suggesting that EPA should impose additional measures in counties neighboring the HGB area, we note that States, not EPA, have the primary responsibility for regulating areas in the State for purposes of attaining and maintaining the NAAQS.

San Antonio, TX

Comment: Several commenters submitted comments urging EPA to designate the multi-county San Antonio Metropolitan Statistical Area (MSA) as nonattainment. Another commenter urged EPA to evaluate the contribution of emissions from counties in the San Antonio-New Braunfels MSA and Eagle Ford Shale on air quality in Bexar County. Another commenter, claiming that the 2015 ozone NAAQS is invalid, urges EPA to designate Bexar County as attainment or unclassifiable. The commenter also noted that the county is projected to attain the 2015 NAAQS by 2020 and claims the costs imposed by a nonattainment designation would be burdensome. Yet another commenter urged a designation of unclassifiable, claiming EPA's 2017 air monitoring handbook provides EPA with discretion in interpreting monitored design values.

EPA Response: The December 22, 2017 action did not include a proposed designation for the San Antonio area. The EPA announced its intended designations for the San Antonio area in a separate action on March 19, 2018 (see <https://www.epa.gov/ozone-designations/epa-responds-recommendations-2015-ozone-standards-san-antonio-tx>). The EPA has provided an opportunity for public comment regarding the designation of the counties in the San Antonio area. (83 FR 13719) the EPA will consider and respond to these comments as well as any new comments it receives during the new public comment period when it moves forward with a final designation for the counties in the San Antonio area.

3.2.7. EPA Region VII

Comments received regarding areas located in EPA Region VII are addressed below in Section 3.2.11.

3.2.8. EPA Region VIII

3.2.8.1 Colorado

Denver Metro/North Front Range, CO

Comment: Several commenters stated that the EPA did not evaluate or analyze the significance of the information provided in the TSD consistent with CAA requirements and that the EPA's proposal arbitrarily excludes the northern portions of Weld and Larimer Counties from the nonattainment area. They contend that a proper analysis of the five factors would lead to the conclusion that ozone precursors

from Northern Weld and Larimer Counties are transported into the nonattainment area and contribute to ozone formation on high ozone concentration days.

EPA Response: The CAA requires that the EPA designate areas that fail to attain a revised NAAQS, as well as nearby areas which contribute to violations be designated as nonattainment. The EPA utilized a weight of evidence approach using five factors (Air Quality Data, Emissions and Emissions Related Data, Meteorology, Geography/Topography, and Jurisdictional Boundaries) to determine nonattainment area boundaries. Based on consideration of those factors, EPA determined not to modify the State's recommendation that the northern portions of Weld and Larimer counties should not be included as part of the Denver nonattainment area because emissions from those areas do not sufficiently contribute to air quality at the violating monitors in the Denver area. The EPA's TSD describes how consideration of all five factors led to the boundary the EPA finalized.

Comment: Several commenters alleged that the EPA's proposed exclusion of part of Weld County does not correspond to any jurisdictional boundary. The commenters reference the EPA's ozone guidance recommending inclusion of the entire violating or contributing county in an ozone nonattainment area. The commenters state that the EPA did not justify excluding part of Weld County and therefore should designate the entire county nonattainment.

EPA Response: Page 33 of the EPA TSD for Colorado (EPA-HQ-OAR-2017-0548-0069) provided with the 120-day letter to the Governor of Colorado explained that the boundary selected for the 2015 ozone NAAQS is identical to that used for the 1997 and 2008 ozone NAAQS nonattainment boundaries. The EPA's ozone guidance³⁰ provides examples of jurisdictional boundaries states may use to determine nonattainment area boundaries, including existing nonattainment areas. The EPA utilized a weight of evidence approach using five factors (Air Quality Data, Emissions and Emissions Related Data, Meteorology, Geography/Topography, and Jurisdictional Boundaries) to determine nonattainment area boundaries. Based on consideration of those factors, EPA determined not to modify the State's recommendation these two areas should not be included as part of the Denver nonattainment area because emissions from these areas do not contribute to air quality at the violating monitors in the Denver area. The TSD contains a more detailed explanation of the 5-factor analysis and how the boundaries for this area were determined.

Comment: A commenter stated that the EPA's TSD shows that the furthest north monitor with a valid design value is exceeding the 2015 NAAQS and therefore the air quality factor is reason to include all of Weld County in the nonattainment area.

EPA Response: The regulatory ozone monitor (08-123-0009) operated in Weld County by the state of Colorado shows an attaining design value (0.070 ppm) for the most recent available data years (2014-2016 data). Non-regulatory ozone monitors operated by the U. S. Forest Service north of Briggsdale, Colorado (24 miles northeast of Greeley, and 4 miles south of the nonattainment area boundary) and at Pawnee Buttes (42 miles northeast of Greeley and 7 miles north of the nonattainment area boundary) and available in the EPA AQS database have never shown a design value greater than 70 ppb (2011-2016 at Briggsdale, 2013-2016 at Pawnee Buttes). The available air quality data indicate that the northern portion of Weld County is currently attaining the 2015 ozone NAAQS.

Comment: The commenter stated that the monitor in Weld County, 08-123-0009, shows a violation of the NAAQS based on the 2015-2017 design value, providing further evidence that the entire county should be designated nonattainment.

³⁰ <https://www.epa.gov/ozone-designations/epa-guidance-area-designations-2015-ozone-naaqs>

EPA Response: The 2017 data from the Greeley Tower ozone monitor (08-123-009) have not yet been certified by the Colorado Department of Public Health and Environment, and so are not being used in this designation. The EPA is required to use the most recent, certified data in making designation decisions; in this case, that is the data from 2014-2016. Even so, the preliminary, uncertified data from the site show a 2015-2017 design value of 70 ppb and would therefore be attaining when certified.

Comment: A commenter contended that EPA's TSD ignored ozone in Boulder County and references two studies (Reference Ex. 1 and Ex. 2 abstract) that found precursor emissions in Weld County, including the northern portion of the county, contribute to ozone in Boulder County. The commenter also states that the monitor located in Boulder County 08-013-0011 is violating the NAAQS based on 2013 AQS data and since Weld County emissions contribute to the violation, the entire county should be designated nonattainment.

EPA Response: The commenter does not provide evidence of how the referenced studies support the inclusion of the northern portion of Weld County in the nonattainment area. While the referenced study indicates that "O&G sources amount to the second largest NO_x sources with most of them attributed to Weld County", the reference does not specifically assess what proportions of emissions come from northern Weld County, as opposed to the portion of Weld County the EPA is including in the nonattainment area. The EPA has addressed in the TSD and five factor analysis why the northern portion is being excluded from the nonattainment area. The commenter cites Reference Ex. 2 abstract, which states that "Analyses of surface ozone and wind observations from two sites, namely, South Boulder and the Boulder Atmospheric Observatory, both near Boulder, CO, show a preponderance of elevated ozone events associated with east-to-west airflow from regions with O&NG operations in N-ESE, and a relatively minor contribution of transport from the Denver Metropolitan area to the SE-S". It is precisely the southern portion of Weld county, which EPA and the state included in the recommended nonattainment area, that is contributing to ozone formed and observed after the east to west motion described in this abstract cited by the commenter. The cited abstract does not specifically address transport from more than 40 miles north from the northern excluded portion of Weld County.

Comment: The commenters pointed out that Weld County has the largest emissions of any county in the nonattainment area with NO_x and VOC emissions comprising of 46% of the total emissions of the nonattainment area. One commenter states that the northern portion of Weld County represents a large share of the total county emissions. The commenter states that if the EPA does not include all of Weld County in the nonattainment area, the EPA will be treating Weld County differently than similarly situated counties.

EPA Response: While the specific proportions of emissions may not be identical, other large counties in the western U. S. have been designated with both attainment and nonattainment portions (see, for example, San Bernardino and Riverside counties in southern California). While Weld County may have 46% of the total emissions in the analyzed counties, the EPA is including the majority of these Weld County emissions sources in the nonattainment area, and specifically those emissions which are nearby to violating monitors, as required by the CAA. Moreover, the EPA utilized a weight of evidence approach using five factors (Air Quality Data, Emissions and Emissions Related Data, Meteorology, Geography/Topography, and Jurisdictional Boundaries) to determine nonattainment area boundaries.

Comment: A commenter provided a discussion on large point sources, identifying three large point sources in Weld County located outside the proposed nonattainment area. The commenter contrasts this with Douglas County which has no large point sources but is proposed as part of the nonattainment area. The commenter points to parts of Larimer and Boulder counties that have no large point sources but are also proposed to be part of the nonattainment area. The commenter concludes that the EPA is treating Weld County differently than similarly situated counties.

EPA Response: The EPA uses a weight of evidence approach using five factors in its TSD to determine which areas to include or exclude in the nonattainment area. Considering the weight of evidence from the five factors, including the proximity of the heavily populated portions of Douglas and Boulder Counties, air quality data (Douglas County contains the violating Chatfield Reservoir monitor, while the Rocky Flats North violating monitor lies less than 200 yards south of the Boulder County line), the relative populations of Boulder and Douglas Counties compared to the sparsely populated northern Weld County, the prevailing meteorology on ozone exceedance days, and topography, inclusion of Boulder and Douglas counties is necessary. Based on consideration of those factors, EPA determined not to modify the State's recommendation that northern Weld County should not be included as part of the Denver nonattainment area because emissions from these areas do not contribute to air quality at the violating monitors in the Denver area.

Comment: A commenter alleged that EPA evaluated the wrong factors in its analysis of large and small point sources and that the CAA requires areas contributing emissions to a violation in a nearby area to be designated nonattainment; 42 U.S.C. 7407(d)(1)(A)(i). The commenter pointed to the EPA's finding that Wyoming contributes significantly to ozone in the current Denver Metro North Front Range nonattainment area which therefore means Northern Weld County contributes to the Front Range nonattainment area.

EPA Response: Under CAA section 107(d)(1), the EPA must designate an area "nonattainment" if it is violating the NAAQS or if it is contributing to a violation of the NAAQS in a nearby area. The EPA applied the same five factor analysis nationally in evaluating nearby contribution to nearby violations, as is outlined in EPA's Guidance on the Area Designations for the 2015 Ozone NAAQS³¹. The five factors—air quality data, emissions and emissions-related data, meteorology, geography/topography, and jurisdictional boundaries—are evaluated on a case-by-case basis to inform the decisions on the boundaries for nonattainment areas for initial designations after a NAAQS modification. The nonattainment area boundary identified for the Denver Metro North Front Range area, as assessed by the five-factors, adequately captures the nearby contributing emissions. CAA section 110(a)(2)(D)(i), often referred to as the "good neighbor" provision of the Act, requires states, within three years of promulgation of a new or revised NAAQS, to submit SIPs that contain adequate provisions prohibiting any source or other type of emissions activity within the state from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to any such national primary or secondary ambient air quality standard. Assessment of contribution for the purpose of the good neighbor provisions and associated requirements for states are addressed separately under the CAA.

Comment: Several commenters stated that the part of Weld County that the EPA intends to exclude has higher VOC emissions than every other county in the proposed nonattainment area and higher NOx emissions than most of the counties in the proposed nonattainment area. Also, that emissions in Northern Weld County are significant and increasing rapidly. The commenters assert that Colorado is issuing minor source permits without any analysis of their impacts to ozone levels. Additionally, a map of oil and gas wells in and around the nonattainment area included in the EPA's TSD map shows that oil and gas wells are numerous and dense in northern Weld County, relative to other areas which the EPA is recommending for nonattainment. This contrasts with other counties in the nonattainment area which have almost none. The commenter cites a study by Evans and Helmig that report findings "suggesting that VOCs from the Northern Colorado Front Range region, where significant oil and gas production occurs, contribute to the formation of ozone in the nonattainment area (Evans and Helmig, 2017)."

³¹ <https://www.epa.gov/ozone-designations/epa-guidance-area-designations-2015-ozone-naaqs>

EPA Response: The commenter is focusing on individual issues, without taking an integrated weight of evidence multi-factor approach as the EPA did. While emissions in northern Weld County may be greater than emissions in counties closer to violating monitors, the weight of evidence five factor analysis assesses emission levels, proximity to violations, population and area source emissions relative to meteorology transporting emissions, and other factors. While oil and gas wells may appear on a map to be relatively dense in northern Weld County, the map also shows much higher well density in the portion of Weld County included in the nonattainment area. The EPA does not dispute the conclusion of the cited report, that Northern Colorado Front Range oil and gas emissions contribute to ozone formation in the nonattainment area, and for that reason have included the majority of those emission sources in the nonattainment area, and particularly those sources which are nearby to violating monitors in directions prevailing meteorology indicates contribute to those violations.

Comment: A commenter suggested that the low population of northern Weld County is irrelevant because of the level of emissions coming from the northern portion of the county.

EPA Response: Population density is an indicator of the location for a number of emission factors not related to oil and gas production, such as mobile source emissions. Population density is therefore not irrelevant for nonattainment area boundary determinations, and is one of the five factors used nationally in a weight of evidence approach to determine boundaries for nonattainment area designations. The lack of population in northern Weld County indicates that few emissions, aside from those from oil and natural gas sources, are present.

Comment: A commenter disagreed with the EPA's analysis of traffic and vehicle miles traveled and points to emissions from vehicles used to serve the oil and gas industry.

EPA Response: Emissions from vehicles used to serve the oil and gas industry are included in the traffic and vehicle miles traveled data that the EPA evaluated. As is shown in the TSD, the majority of VMT emissions in the CSA are captured within the EPA's nonattainment boundary.

Comment: A commenter stated that the EPA is incorrect in its analysis, and has based its designation on a mythology that air pollution is worst "downtown" when the worst ozone in the Front Range is to the west of the urban core area.

EPA Response: The commenter takes the EPA's assessment that "Rapid population or VMT growth in a county on the urban perimeter may signify increasing integration with the core urban area, and thus could indicate that the associated area source and mobile source emissions may be appropriate to include in the nonattainment area" (EPA TSD page 19) out of context and incorrectly suggests that the EPA is claiming ozone is worse "downtown" than in the foothills to the west of the urban core. The EPA acknowledges that monitors to the west of urban centers are the violating monitors, as shown it throughout the TSD (for instance, Figure 14 shows all violating monitors west of urban centers and adjacent to the foothills). The EPA's analysis in the TSD is consistent with the commenter's statement that ozone concentrations tend to be highest in the foothills areas to the west of downtown Denver.

Comment: A commenter pointed to the EPA's HYSPLIT back trajectory maps to show that emissions in northern Weld County end up at violating monitors. The commenter also alleged that Colorado's back trajectory analysis is flawed because it uses 2013-2015 monitoring data, was not run using the ensemble mode, and did not calculate back trajectories for any day where the maximum daily 8-hour ozone concentration exceeded 70 ppb.

EPA Response: The EPA's HYSPLIT back trajectories show at least some trajectories originating or passing through counties adjacent to the nonattainment area as well as the larger area of analysis in all

directions. The presence of one or a few back trajectories in an area upwind in a given direction is not determinative evidence that the area must be included in the nonattainment area. This is a principle evident in the designation decisions across the country which utilize HYSPLIT. The HYSPLIT back trajectories represent modeled simulations of general direction and timing of air flow on analyzed days, but are not perfect representations of actual air flow. Directions and areas with many trajectories can provide evidence of nearby emissions contributing to monitored violations on many (or most) high ozone days, and can indicate areas which should be strongly considered for inclusion. Colorado submitted its recommendations for ozone nonattainment boundaries in October of 2016; the state cannot be faulted for not utilizing the incomplete 2016 dataset in a submission requested by the EPA midway through 2016. In addition, analysis of data over a three-year period, whether 2013-2015 used by Colorado or 2014-2016 used by the EPA, would be considered equally representative of general wind patterns on high ozone days. The fact that another year has passed, allowing the EPA to evaluate the 2014-2016 data using HYSPLIT does not in any way invalidate the representativeness of the Colorado evaluation of wind patterns for high ozone days in two of the same years, plus one earlier year the EPA did not evaluate. Neither does the EPA's use of 2016 ambient ozone data for the designation design value calculation mean that Colorado's 2013-2015 evaluation is "flawed" for ignoring 2016. The commenter provided its own HYSPLIT analysis of the 2013-2015 data, but used different model options. The EPA produces HYSPLIT backward trajectories for each violating monitor on each exceedance day, using only input meteorological data for the location of the monitor and for the exceedance day. Matrix and ensemble applications of HYSPLIT use meteorological data or trajectory endpoint locations and times that differ from those of the violating monitor and the exceedance day. To maintain the focus of the analysis directly on the contribution to the exceedance at the monitor on the exceedance day, EPA does not employ options that build such a compilation result.

Comment: A commenter stated that the EPA's HYSPLIT analysis fails to consider recirculated emissions from the prior day and ignores the fact that pollution from further away takes longer to get to a violating monitor than pollution from closer to the violating monitor.

EPA Response: The HYSPLIT tool uses archived, gridded meteorological data to estimate trajectories air parcels followed in the hours before arriving at a receptor. Local topography, inaccuracies introduced by the gridded meteorology data, and other sources of uncertainty mean that HYSPLIT trajectories are best interpreted as general trends in source regions for a given receptor on given days, and not a precise representation of actual air parcel travel. If the back-trajectory fails to reconsider observed or suspected recirculation, one reason would be that the recirculation is not properly characterized in the gridded meteorology. The EPA has added a discussion of the recirculation represented by the Denver cyclone and vertical recirculation in the meteorology discussion under Factor 3 in the TSD.

Comment: A commenter stated that the EPA and Colorado's analysis fails to consider the Denver Cyclone and points to a study that found that "the Denver Cyclone causes oil and gas emissions in Weld County, which would include the area the EPA is proposing to designate attainment, to contribute to exceedances of the ozone NAAQS."

EPA Response: The EPA has added further discussion of the recirculation represented by the Denver Cyclone and vertical recirculation in the meteorology discussion under Factor 3 in the TSD, one of five factors that the EPA weighed in reaching its decision about the boundaries of the Denver nonattainment area.

Comment: A commenter disagreed with the EPA that Northern Weld County and Northern Larimer County is outside the Denver Basin and that the Cheyenne Ridge bounds the nonattainment area airshed to the North.

EPA Response: Colorado included the figure below (Figure 1) to illustrate the terrain features bounding the Denver Basin. At the right of the figure is the Cheyenne Ridge, rising from the elevation of the Cache la Poudre and South Platte rivers to a high point near the Colorado/Wyoming border (off the right edge of the figure). The nonattainment area boundary is shown in grey. The northern sections of Weld and Larimer Counties fall in the elevated terrain which forms the northern boundary of the Denver Basin. The Denver Basin is characterized by unique meteorological conditions and topographic features described in Factor 3 and Factor 4 of the TSD, which indicate that emissions in Northern Weld and Northern Larimer Counties are not likely to contribute to violating monitors.

The EPA has modified the TSD for the nonattainment area to more accurately characterize the elevated terrain in northern Weld and Larimer Counties which are excluded from the nonattainment area.

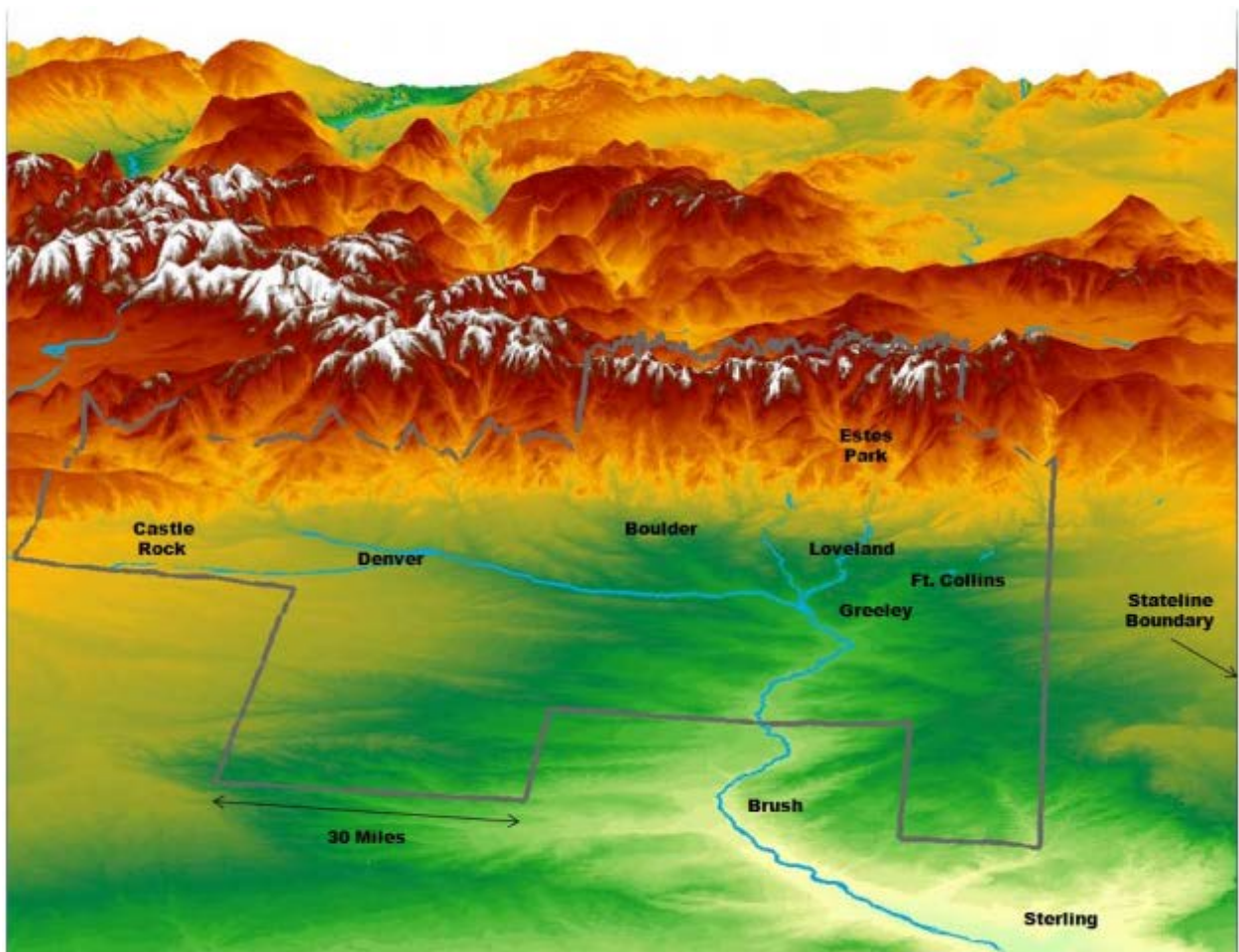


Figure 1 – Topographic illustration of the Denver Basin and final nonattainment area boundary

Comment: A commenter stated that for the same reasons outlined for Weld County in comment EPA-HQ-OAR-2017-0548-0273, the EPA has not offered a rational basis for excluding part of Larimer County from the Front Range nonattainment area.

EPA Response: The EPA used the five factor analysis to assess the retention of the same northern boundary for Larimer County as has been used for the nonattainment area for the 1997 and 2008 ozone standards. Based on the weight of evidence of the five factor analysis, EPA determined not to modify the

State's recommendation that northern Larimer County should not be included as part of the Denver nonattainment area because emissions from these areas do not contribute to air quality at the violating monitors in the Denver area.

Comment: Several commenters stated that Northern Larimer County includes significant sources of ozone precursor emissions and represent a large share of the total county emissions. Larimer County VOC emissions approach 50,000 tpy. The commenter noted that no other individual county within the NFR non-attainment area has VOC emissions above 30,000 tpy.

EPA Response: The commenter cites the 2011, V2 NEI for a Larimer County VOC emission estimate "approach[ing] 50,000 tpy." Table 3 of the EPA TSD shows Larimer County VOC emissions of 8,307 tons per year, based on the 2014 NEI, and omitting biogenic emissions. Table 2 shows that when biogenic emissions are excluded for the 2014 NEI, Weld, Adams, Denver, Jefferson, and Arapahoe counties all have greater VOC emissions than Larimer. The EPA does not consider biogenic emissions in the five factor analysis given that no controls are available for these emission sources. The majority of Larimer County is included in the nonattainment area, so the relative magnitude of the total county is not necessarily relevant to whether the northern portion of Larimer County is included in the nonattainment area. Colorado estimated that the northern portion of Larimer County includes 3,076 tpy of VOC emissions (37% of the county total).

Comment: A commenter argued that emissions from Martin Drake, Nixon, and Rawhide Power Plants contribute to Colorado's nonattainment problems and that the EPA must include these major sources of NOx emissions in the nonattainment area designation because they contribute to the nonattainment problem.

EPA Response: Martin Drake and Nixon power plants lie in the Colorado Springs CBSA, and are not part of the Denver CSA. Martin Drake lies 51 miles south of the nearest violating monitor in the Denver nonattainment area, and Ray Nixon is 64 miles south of that monitor. Neither of the ozone monitors in the Colorado Springs CBSA have recorded a violation of the NAAQS. Additionally, neither has had a design value greater than 70 ppb since the 2012-2014 monitoring year. Given these facts, as well as the relative infrequency of HYSPLIT back trajectories moving from the Colorado Springs area to a violating monitor, the EPA does not believe that the Colorado Springs area power plants can be considered nearby sources contributing to violations.

The Rawhide Power Plant is in the portion of Larimer County excluded from the nonattainment area for the reasons articulated in the TSD and elsewhere in this response to comment document. In response to the commenter and their attached HYSPLIT model results, the EPA generated a pollution rose using hourly ozone data from 2013-2016, along with wind speed and direction data from the adjacent meteorological station operated at the Colorado State University Agricultural Engineering Research Center. That ozone pollution rose shows the percent of total hours where ozone is coming from each direction, and indicates through a color scale the directions most associated with elevated ozone levels. The pollution rose has been incorporated into the TSD for Factor 3 (Meteorology), and shows that nearly all ozone data with concentrations above 70 ppb comes from the south, southeast or east. Nearly no elevated ozone comes from the direction of the Rawhide Power Plant (to the north). The EPA evaluated HYSPLIT back trajectories seen in both the 2013-2015 data set and in the 2014-2016 that the EPA used nationally. The EPA found that there are far fewer back trajectories originating in the northern portion of Weld and Larimer Counties (including the Rawhide Power Plant) in the 2014-2016 data set than in the 2013-2015 data set evaluated by the commenter; indicating that the commenters model results highlighting back trajectories passing west of the Rawhide Power Plant may have been dominated by a single (or a few) day(s) in 2013

Comment: A commenter stated that more needs to be done to protect the air we breathe citing to recorded ozone values of 88, 86, 83 and 83 ppb at the National Renewable Energy Lab monitor in the summer of 2017.

EPA Response: The 2017 ozone data mentioned by the commenter have not yet been certified as complete and accurate by Colorado, and so are not being used in this ozone designation action. The comment does not indicate the source for the 2017 data, but three of the four high data values included in the comment do not appear in the EPA's AQS database or on the Colorado Department of Public Health and Environment data page. Preliminary 2017 data are comparable to the 2014-2016 data shown under Factor 1 in the EPA TSD for Colorado. On October 1, 2015, the EPA strengthened primary and secondary ozone NAAQS and provides increased protection against an array of adverse health effects.

Comment: A commenter stated that "nonattainment areas include areas that contribute to ambient air pollution in nearby areas that exceed that applicable air quality standard, like Northern Weld and Larimer Counties." The commenter concluded that area designations are important for the protection of public health and environment because of requirements associated with nonattainment designations.

EPA Response: The CAA requires that the EPA designate areas that fail to attain a revised NAAQS, as well as nearby areas which contribute to violations be designated as nonattainment. The EPA utilized a weight of evidence approach using five factors (Air Quality Data, Emissions and Emissions Related Data, Meteorology, Geography/Topography, and Jurisdictional Boundaries) to determine nonattainment area boundaries. Based on consideration of those factors, EPA determined not to modify the State's recommendation that the northern portions of Weld and Larimer counties should not be included as part of the Denver nonattainment area because emissions from those areas do not sufficiently contribute to air quality at the violating monitors in the Denver area. The EPA's TSD describes how consideration of all five factors led to the boundary the EPA finalized. On October 1, 2015, the EPA strengthened primary and secondary ozone NAAQS and provides increased protection against an array of adverse health effects.

Comment: A commenter asserted that including Northern Weld and Larimer Counties in the nonattainment area will aid Colorado in developing strategies to achieve the ozone standard and cites the State's 2014-2016 design values to support this statement. The commenter stated that the EPA should expand the nonattainment area that is contributing to elevated ozone levels so that nonattainment controls would be applicable to sources in those areas. The commenter concluded that this would result in additional reductions since more emissions would be subject to controls.

EPA Response: Given the overall weight of evidence of all five factors that the EPA considered in its TSD, including the relative rarity of trajectories from the excluded areas, the much greater emission levels within the included areas, it is not clear that inclusions of sources in the excluded areas will aid Colorado in attaining the NAAQS to any significant degree. If future more refined attainment planning analyses conducted by the state of Colorado find that such controls are effective for bringing the area into attainment, the state has CAA authority to address them.

Comment: One commenter stated that the bulk of emission in Northern Weld and Larimer Counties are from oil and gas production activities that that these emissions are understated in the inventory. The commenter referenced a series of studies focusing on emissions at natural gas production sites concluding that emissions from oil and gas facilities are significantly underestimated in inventories and that as many of these facilities as possible should be included in the nonattainment area to help Colorado reduce ozone precursors from the industry.

EPA Response: Oil and natural gas emissions are a significant portion of the total emissions throughout Larimer and Weld Counties, not just in the northern portion excluded from the nonattainment area. Figure 4 in the EPA TSD shows far higher well densities in southeastern Larimer, southwestern Weld and eastern Boulder Counties than in the northern portions of Weld and Larimer Counties excluded from the nonattainment area. Any understatement of oil and gas emissions would apply to both the sources included in the nonattainment area and to the sources outside the nonattainment area. The understatement of emissions in the northern portions would not directly argue that the northern portions should have been included, because the much greater emissions within the nonattainment area would also have been understated.

Comment: A commenter pointed to peer-reviewed studies to support its claim that transport from oil and gas emissions cause ozone exceedances in Colorado and that the northern portions of Weld and Larimer Counties should be included in the nonattainment area.

EPA Response: As presented in the EPA TSD (pp. 8-11), the EPA also believes that oil and gas emissions contribute to the ozone precursors in the NAA. The same peer reviewed article included as supporting material in this comment concludes that the studies analysis suggests that elevated ozone levels in the Northern Colorado Front Range “are predominantly correlated with air transport from the N-ESE [from north to east-southeast], which are the upwind sectors where the O&NG [oil and natural gas] operations in the Wattenberg Field area of the DJB [Denver-Julesburg Basin] are located”. According to a 2011 USGS publication, the Wattenberg Field is outlined in the following figure, and is entirely contained within the intended ozone nonattainment area.

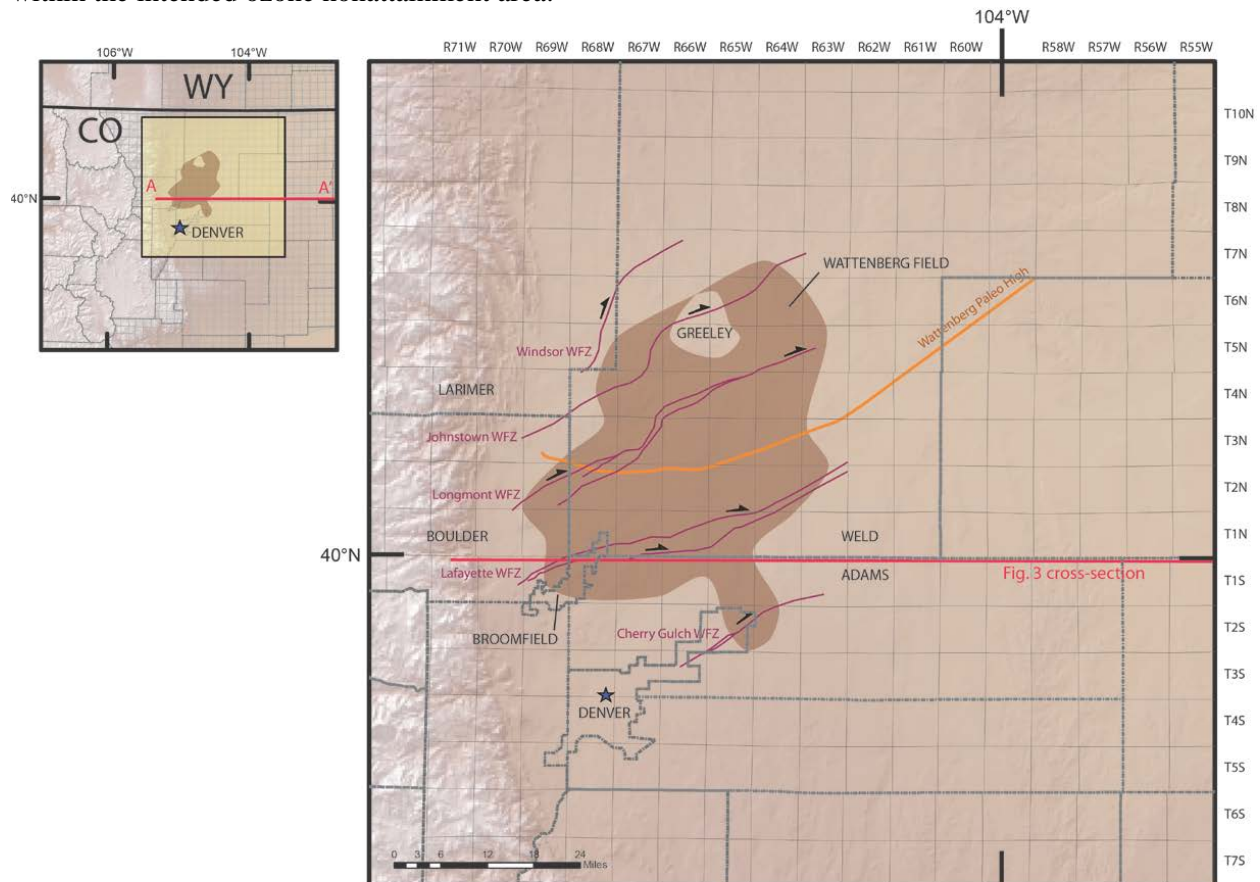


Figure 2 - Outline map of the Wattenberg field in the Denver Basin, Colorado, drawn to contain all wells producing from the formations studied in this report. The undrilled area in the northern part of the field is the city of Greeley. Reprinted from U.S. Department of Interior “Gas, Oil, and Water Production from Wattenberg Field in the Denver Basin, Colorado”, U.S. Geological Survey, Reston, Virginia, 2011. Web. 29 Mar 2018.

Comment: A commenter referenced a map produced by the Colorado Oil and Gas Conservation Commission to demonstrate that areas of oil and gas current and future development will be significant contributors to ozone in the nonattainment area, and therefore must be included in the nonattainment area.

EPA Response: Consistent with the CAA requirements for designations, the EPA considers existing emissions but not potential future emissions in assessing whether an area is contributing to violations of the NAAQS.

Comment: One commenter suggested that the jurisdictional boundaries factor supports inclusion of the northern portions of Weld and Larimer counties as part of the nonattainment area.

EPA Response: The jurisdictional boundary factor is just one of five that the EPA considers when determining an appropriate nonattainment boundary. In this case, evidence from the other factors supports finalizing the proposed boundary.

3.2.8.2 *Utah*

Wasatch Front, UT

Comment: The State of Wyoming requested that EPA clarify that the same topographic obstacles that prevent emissions from Summit, Juab, Wasatch, and Morgan Counties in Utah from influencing violating monitors along the Wasatch Front, also prevent emissions from southwestern Wyoming point sources from influencing those violating monitors.

EPA Response: In the February 25, 2016 ozone designations guidance, the EPA identifies what factors States and Tribes should use in their boundary recommendation – as well as what the EPA considers in its analysis to support final designations. The guidance notes the importance of analyzing whether nearby areas contribute to a violating area, and that the EPA intends to consider information relevant to designations associated with the counties in the Combined Statistical Area (CSA). For the Northern and Southern Wasatch Front nonattainment areas, the area of analysis was limited to the Salt Lake City-Provo-Orem CSA – and consequently did not include any areas in southwestern Wyoming. Thus, EPA has not analyzed how topography may affect emissions from sources in southwestern Wyoming.

Comment: A commenter suggested that in addition to the inclusion of Salt Lake County, Davis County, and portions of Weber and Toole Counties in the Northern Wasatch Front nonattainment area, the EPA should include the major sources located in Morgan and Summit Counties, adjacent to counties with violating monitors, in the Northern Wasatch Front nonattainment area. The location of major sources of NO_x in these two counties appears to coincide with many of the lower elevation back trajectories in EPA’s TSD that show impacts to the violating monitors on exceedance days, with trajectories from the Summit County source impacting the Hawthorne, Ogden, Bountiful and North Provo monitors, and trajectories from the Morgan County source influencing Hawthorne, Ogden, Bountiful, Harrisville and Spanish Fork.

EPA Response: While individual point sources are found in both Morgan and Summit Counties, county level precursor emissions in these counties are lower than the emissions from all of the counties being included in the nonattainment areas, as shown in Table 3 of the TSD. HYSPLIT trajectories as utilized in the TSD are useful for visualizing the predominant flow characteristics during high ozone events. As noted in the TSD Factor 3: Meteorology section, emissions originating within Davis and Salt Lake Counties as well as the southern portion of Weber County, the northern portion of Utah County, and the eastern portion of Tooele County, tend to be the primary influencer on violating monitors. The Wasatch mountain range acts as a terrain block for emissions in areas to the east of the violating monitors. During high ozone events, low surface winds inhibit transport of emissions, and mountains to the east block ozone and ozone precursors from having a substantial effect from the Morgan and Summit County sources. Instead, north, northwest and south, southwest components for wind directions are far more common in the large scale. It should also be noted that the accuracy of the HYSPLIT model can be limited with complex topography. As the commenter notes, many of the trajectories suggesting influence from the Morgan and Summit County major sources are lower elevation trajectories, meaning that the model is working backward from a point 100 meters above the elevation of the monitor of interest. Those back trajectories leading to the Morgan and Summit County sources cross a mountain range with typical elevations of 1,200 meters above the elevation of the monitors. HYSPLIT backward trajectories for the same days and monitors, with starting heights 500m and 1000m above ground level, which are less likely to be affected by the mountain range, show more north, northwest and south, southwest components than do the trajectories with 100m starting heights.

Uinta Basin, UT

Comment: Several commenters expressed concern that the nonattainment designation for the Uinta Basin might occur before a local, streamlined permitting mechanism is developed for the U&O Reservation as a nonattainment area (the National O&NG FIP does not apply in areas of Indian country designated nonattainment). Operators of oil and natural gas facilities wishing to locate or expand operations on the U&O Reservation currently use the National Tribal minor NSR FIP to obtain authorizations to construct. Upon nonattainment designation, the National O&NG FIP's construction authorization mechanism will no longer apply. The commenters requested that the EPA revise the National O&NG FIP so that it applies to nonattainment areas until a U&O Reservation-specific FIP is in place. The commenters also requested that the EPA delay the effective date of a nonattainment designation for the Uinta Basin until a U&O Reservation-specific FIP is finalized.

EPA Response: The EPA is aware that once designated nonattainment, the National O&NG FIP will no longer apply to the Indian country portions of the Uinta Basin (i.e., the U&O Reservation). The EPA is also aware of the importance of streamlined permitting, as afforded by the National O&NG FIP, and its value to economic development in this airshed. We are working to avoid a gap in streamlined permitting when the Uinta Basin is designated nonattainment for ozone, and, to this end, we are pursuing multiple options, including a proposed revision to the National O&NG FIP. If finalized, this would allow for continued streamlined construction authorizations on the U&O Reservation following the effective date of a designation of nonattainment for the Uinta Basin. Additionally, the EPA is planning on proposing a reservation-specific FIP to control new, modified, and existing minor oil and natural gas sources on the U&O Reservation. Under the National O&NG FIP, new and modified true minor oil and natural gas sources in the oil and natural gas production and natural gas processing segments of the oil and natural gas sector would need to register their proposed sources with the EPA, as they currently do. In light of the

court's order in *In Re Ozone Designation Litigation* (N.D. Cal. Nos. 4:17-cv-06900-HSG and 4:17-cv-06936-HSG), the EPA has limited ability to further delay nonattainment designations.

Comment: Several commenters from the oil and natural gas industry, state, tribal, and local government request that the EPA proposed a nonattainment boundary in the most targeted possible way. Suggestions were made to either use a boundary of the exact 6,250 ft. contour line, or a boundary consisting of “quarter-quarter” section definitions.

EPA Response: The EPA has revised the nonattainment boundary to be defined as the 6,250-ft contour line. Generally, all land lying below an external contiguous perimeter defined at 6,250 feet in Uintah and Duchesne Counties will be in the nonattainment area, and lands outside that perimeter above 6,250 feet will be attainment/unclassifiable. See the TSD for more detailed descriptions of this boundary.

Comment: A commenter contended that based on research cited from Dr. Seth Lyman, the EPA should postpone nonattainment designations for additional analysis and focus on areas responsible for generating background ozone levels. The commenter cited an attached report stating that analysis of historical weather indicates that high ozone would occur in only about ½ of years, high ozone has only been seen in 2/3 of years since 2012, that not all monitors see high ozone in all high ozone winters, that winter time background ozone from sources outside the Uinta Basin are 40 to 55 ppb, which is 60 to 80% of the 70 ppb standard, and that more work is needed before computer models can be reliably used to develop mitigation strategies for winter ozone.

EPA Response: The Agency does not give special consideration to background ozone levels as part of the designation process. The level of the NAAQS and the procedures for determining whether an area is meeting the NAAQS were established at the time the 2015 ozone NAAQS was promulgated. See 40 CFR 50.19 and Part 50, App. U. Moreover, EPA is not at liberty to postpone designations. The CAA requires EPA to designate areas within 2 years of promulgation of a NAAQS and allows for a one-year extension where there is “insufficient information to promulgate the designations.” CAA section 107(d)(1)(B)(i). On December 4, 2017, a coalition of environmental and health organizations filed suit against the Administrator claiming that EPA failed to meet its mandatory obligation to designate all areas of the United States for the 2015 ozone NAAQS by October 1, 2017. *American Lung Association, et al v. Pruitt* (N.D. Cal. No. 4:17-cv-06900). A coalition of fifteen states also filed a similar suit on December 5, 2017. *State of California v. Pruitt* (N.D. Cal. No. 4:17-cv-06936). In a March 12, 2018, order, the court granted the motions in part and ordered the EPA “to promulgate final designations for all areas of the country except for the eight undesignated counties composing the San Antonio area no later than April 30, 2018.” See *In Re Ozone Designation Litigation* (N.D. Cal. Nos. 4:17-cv-06900-HSG and 4:17-cv-06936-HSG) Although not relevant for purposes of the designations, EPA notes that sources outside the Uinta Basin have little to no impact on air quality within the Basin. The meteorological conditions (temperature inversions) associated with high wintertime ozone trap local emissions in the valley and isolate the valley air from impacts originating from regional or longer-range transport that occurs in upper layers of the atmosphere. The result is that these wintertime exceedances are the direct result of local emissions rather than other background sources of ozone. The comments on the frequency of high ozone winters is correct, but the area violates because those conditions occur frequently enough to cause three-year average ozone levels to be above the standard.

Comment: Several commenters from local government object to the proposed 6,250 ft. elevation and believed that a 6,000 ft. elevation boundary is more scientifically supported. One commenter stated that

“We understand that exceedances from the Whiterocks monitor are likely due to the close proximity and density of wells currently running within a few miles of that monitor” (which is the only violating regulatory monitor above 6,000 feet), and that the EPA should not have raised the elevation above 6,000 feet, as recommended by Utah, unless other monitors over 6,000 feet also showed violations.

EPA Response: The EPA disagrees that it was not appropriate to raise the elevation boundary above 6,000 feet. As the commenter recognizes, the Whiterocks monitor, which is violating the standard is located above 6,000 feet. To the extent the commenter is suggesting that only the emission sources in close proximity to the Whiterocks monitor are contributing to ozone exceedances in the area, we disagree. Ozone is formed photochemically over time in the atmosphere from precursor (NO_x and VOC) emissions and thus tends to be more regional than local in nature. That formation over time allows for movement of precursors before ozone reaches a high level causing an ozone exceedance at a particular monitor, even under relatively low wind speed conditions under winter temperature inversions. During daylight hours in high ozone episodes, Whiterocks winds are generally from the southwest to southeast, rather than completely random. This allows precursors from sources within the Basin but at significant distances to the south of the monitor to move northward while ozone is forming photochemically. In addition, on days when the Whiterocks monitor exceeds the ozone standard, several other ozone monitors across the basin at significant distance generally also exceed the standard. For example, during the severe ozone episodes in early 2013, the Whiterocks monitor recorded ozone exceedances ranging from 72 to 89 ppb on 13 days between January 22 and February 20. On six of the 13 days in that period, all the other monitors within the nonattainment area also recorded exceedances; and on no other exceedance day did fewer than 5 of 7 other monitors in the nonattainment area record a coincident exceedance with the Whiterocks monitor. This kind of simultaneous widespread elevated ozone over a monitored area extending sixty miles east to west and 42 miles north to south is much more indicative of widespread regional ozone formation, and not of local “hot spot” ozone formation around emission sources in a small area.

Comment: A commenter suggested that the proposed designations misrepresent data from the Rabbit Mountain monitoring station. The EPA only considered the regulatory data collected at the site in 2012 and 2013, and did not consider the additional non-regulatory data collected at the site from October 2013 until the end of the 2016-2017 winter (non-regulatory data was provided to the EPA with the comment). The commenter suggests that the monitor has not recorded any exceedances of the 2015 ozone NAAQS since 2013 and the additional data should be considered in determining the extent of the nonattainment boundary.

EPA Response: The EPA used all the valid regulatory data available in the EPA AQS database relevant to the Uinta Basin. That includes five values above the level of the standard recorded at Rabbit Mountain in 2012, and twelve values above the standard recorded in 2013, the only years the Rabbit Mountain monitor collected regulatory data. The EPA was not provided additional non-regulatory data collected at the Rabbit Mountain monitoring station after regulatory monitoring ceased in 2013 until the public comment period. While non-regulatory monitoring has not recorded ozone exceedances at the site since 2013, quality assurance and quality control (QA/QC) data for the monitor has not been provided to the EPA; the EPA cannot therefore assess the data quality of this post-2013 data. In addition, during the 2017 ozone season, data was not recorded at the site during the only period in which monitors at other locations in the basin recorded ozone exceedances that winter; the commenter’s suggestion that the site has not exceeded the standard since 2013 is therefore based on an incomplete data set which misses at least one critical period. None of the ozone years since 2013, when non-regulatory data was collected and provided by the commenter has been as severe at other monitors in the Uinta Basin as was 2013. Even with the

subsequent data from Rabbit Mountain, located at an elevation of 6,165 feet, the EPA's conclusion that ozone at levels above the standard can be recorded at the location during the most severe ozone seasons is not incorrect, and that conclusion strongly supports the use of a 6,250 ft. elevation boundary across the entire Uinta Basin, including that portion of the basin which includes the Rabbit Mountain monitor. Please see page 34 of the Utah TSD for a discussion of how this, and other non-regulatory monitors, were used in EPA's evaluation of the Uinta Basin.

Comment: A commenter suggested that the proposed designations overestimate the emissions in the vicinity of the Rabbit Mountain monitoring station, since the EPA focused on emissions from oil and gas wells, population centers, and traffic and vehicle miles traveled, none of which occur in proximity to the location of the Rabbit Mountain ozone monitor.

EPA Response: The EPA's statutory obligation is to designate all areas violating the ozone standard, as well as nearby areas contributing to those violations as nonattainment. Oil and gas operations can be found within four miles of the Rabbit Mountain monitor. The EPA used typical mixing height during winter ozone episodes to define the upper elevation of the nonattainment area boundary, and the sources near the Rabbit Mountain monitor indicate it is an appropriate boundary in the southeastern portion of the basin near Rabbit Mountain as it is elsewhere in the basin.

Comment: A commenter suggested that the proposed designations incorrectly consider meteorology and topography in the vicinity of the Rabbit Mountain monitoring station. The commenter noted that ozone at the Rabbit Mountain monitoring station more closely tracks the Rangely, Colorado ozone monitor (700 feet lower and outside the eastern boundary of the nonattainment area) than it tracks the Whiterocks violating monitor (51 feet higher than Rabbit Mountain and 60 miles northwest).

EPA Response: The EPA used available meteorology and ozone measurement data to determine that an elevation defined boundary for the nonattainment area was an appropriate boundary that included both the area violating the standard and nearby areas contributing to the violations.

Comment: A commenter suggested that the area around the Rabbit Mountain monitoring station should be excluded based on the few emissions sources and lack of recent recorded violations at the monitor.

EPA Response: We disagree. The EPA used available meteorology and ozone measurement data to determine that an elevation defined boundary for the nonattainment area was an appropriate boundary that included both the area violating the standard and nearby areas contributing to the violations. As previously noted, the Rabbit Mountain monitor is a non-regulatory monitor and we cannot draw any conclusions from that data about whether the area is currently attaining the standard. We note that historical monitoring data at the site from a monitor that met EPA's regulatory monitoring requirements indicate that elevated ozone may occur at the location during severe ozone seasons.

Comment: A commenter requests that the area around their phosphate mining operations be excluded from the nonattainment boundary. The commenter noted that their mining operations are primarily at an elevation above 6,000 ft. and are therefore not expected to have contributed to ozone violations. Additionally, the phosphate mine is not a large point source of NOx or VOC emissions, nor are there significant oil and natural gas development activities in the area. Finally, the commenter contends that the meteorological conditions that result in ozone violations, the low-emitting ozone precursors from the

mine are not expected to transport downward and contribute to ozone violations. Consequently, the commenter proposes that the EPA exclude certain townships from the final nonattainment area.

EPA Response: The commenter provides no data to support the statement that ozone precursors emitted from mine operations are not expected to transport to monitors at lower elevations and thus contribute to ozone violations at those monitors. The statute does not require and it is not practical for EPA to consider carving out small portions of a county for inclusion in a nonattainment area based on claims by a single source that its emissions are not causing or contributing to the violation. We note, however, that the modification of the boundary in the final TSD to be based on elevation will result in much of this commenter's mining operation not being included within the nonattainment area.

Comment: Several commenters from the oil and natural gas industry, state, and local government object to the "> 10 percent" methodology used to determine which townships are included in the nonattainment boundary. The commenters note that using 10 percent of land area as a basis for determining inclusion in the nonattainment is arbitrary.

EPA Response: The EPA disagrees that the "greater than 10 percent" methodology was arbitrary. The EPA used that methodology at the time of the 120-day letters because it had been recommended by the State of Utah. Based on further dialogue with the State and based on other comments received, for the final designation the EPA is setting a contiguous 6,250 ft. contour boundary.

Comment: Several environmental groups sent comments in support of the Uinta Basin proposed nonattainment boundary.

EPA Response: The EPA acknowledges and appreciates the supportive comments. However, based on further dialogue with the State and consideration of additional comments, the EPA is setting the boundary as a contiguous 6,250 ft. contour boundary rather than including all townships with greater than 10 percent of land at lower than 6,250 ft.

Comment: Several commenters request that the EPA designate the Uinta Basin at the Moderate classification either through using 2015-2017 monitoring data (versus 2014-2016), or the EPA's CAA discretion to designate at a higher classification. One commenter states that the EPA should classify the Uinta Basin as a Moderate nonattainment area because existing emissions controls will not allow the area to attain the NAAQS. Further, the commenter contends that the suspension, revision, and/or rescission of federal oil and gas controls will eliminate the primary emissions control regulations applicable in much of the Basin and that energy development in the area is expected to increase.

EPA Response: The EPA's final rule published on March 9, 2018, (83 CFR 10376) established the design value thresholds for area classifications. Based on that rule, the Uinta Basin is being classified as Marginal. Under section 181(a)(4) of the CAA, an area may be reclassified if the design value for the area is within 5 percent of the threshold for that other classification. The EPA has not historically reclassified areas under this provision on its own initiative and is not planning to do so here. If a state or tribe submits such a request, the EPA will consider whether such reclassification is supported. Regarding the comment that the area is unlikely to attain the 2015 ozone NAAQS by the Marginal area attainment date without imposing further controls, the EPA notes that nothing in the Act precludes a state from adopting controls if they are needed to bring the area into attainment by the applicable attainment date. Regardless of an area's classification, the Act places the primary responsibility for attaining and maintaining the NAAQS

on the State. Thus, the commenter's concerns about federal regulation is misplaced. If the area remains classified as Marginal and fails to attain the standard by the Marginal area attainment date, it will be reclassified at that time to Moderate and the state will be obligated to demonstrate attainment in the area by the Moderate area attainment date.

Comment: A commenter indicates that they are supportive of designating the Uinta Basin nonattainment; however, there should be no elevation cap to the nonattainment boundary. The commenter argues that "almost certainly" atmospheric mixing at elevations higher than 6,250 ft. contribute to nonattainment at the Whiterocks monitor on at least some days. Further, the commenter claims that the 8% of emissions above the elevation boundary do influence ozone production in the Basin. The Clean Air Act requires the EPA to finalize a nonattainment area boundary that includes all sources which contribute to nonattainment in the Uinta Basin, and by the agency's own admission the 6,250-ft elevation cap does not meet this requirement, and that it is arbitrary for the EPA to reject Utah's recommended 6,000 ft. upper boundary that excludes 12% of oil and gas emissions only to choose instead a boundary that excludes 8% of oil and gas emissions. The EPA shows that their 6,250 ft. boundary does not include all emissions contributing to nearby violations.

EPA Response: The commenter has not submitted any additional evidence or data to support their claim that sources above an elevation of 6,250 ft. contribute meaningfully to air quality at the violating monitors. In light of the State and Tribe's recommendations and the location of the violating monitor; as well as the majority of sources, the EPA believes that using an elevation of 6,250 ft. is a reasonable estimation of the area violating the standard and the area with sources contributing to violations of the standard.

During the Uinta Basin winter ozone studies of 2011, 2012, 2013 and 2014, vertical temperature and ozone profiles were primarily collected at the Ouray National Wildlife Refuge site (4,692 feet in elevation), the Fantasy Canyon site (at 4,823 feet) and the Horsepool monitoring site (at 5,148 feet). Average and extreme ozone measurements aloft are shown below for ozone balloon soundings from Ouray Wildlife Refuge for several ozone exceedance days in 2013. The standard deviation of ozone is not over 70 ppb at elevations more than 375 meters above the surface, and mean peak ozone over 70 ppb does not occur above 325 meters above the surface; these elevations above ground level correspond to elevations above sea level of 5,922 feet and 5,758 feet, respectively.

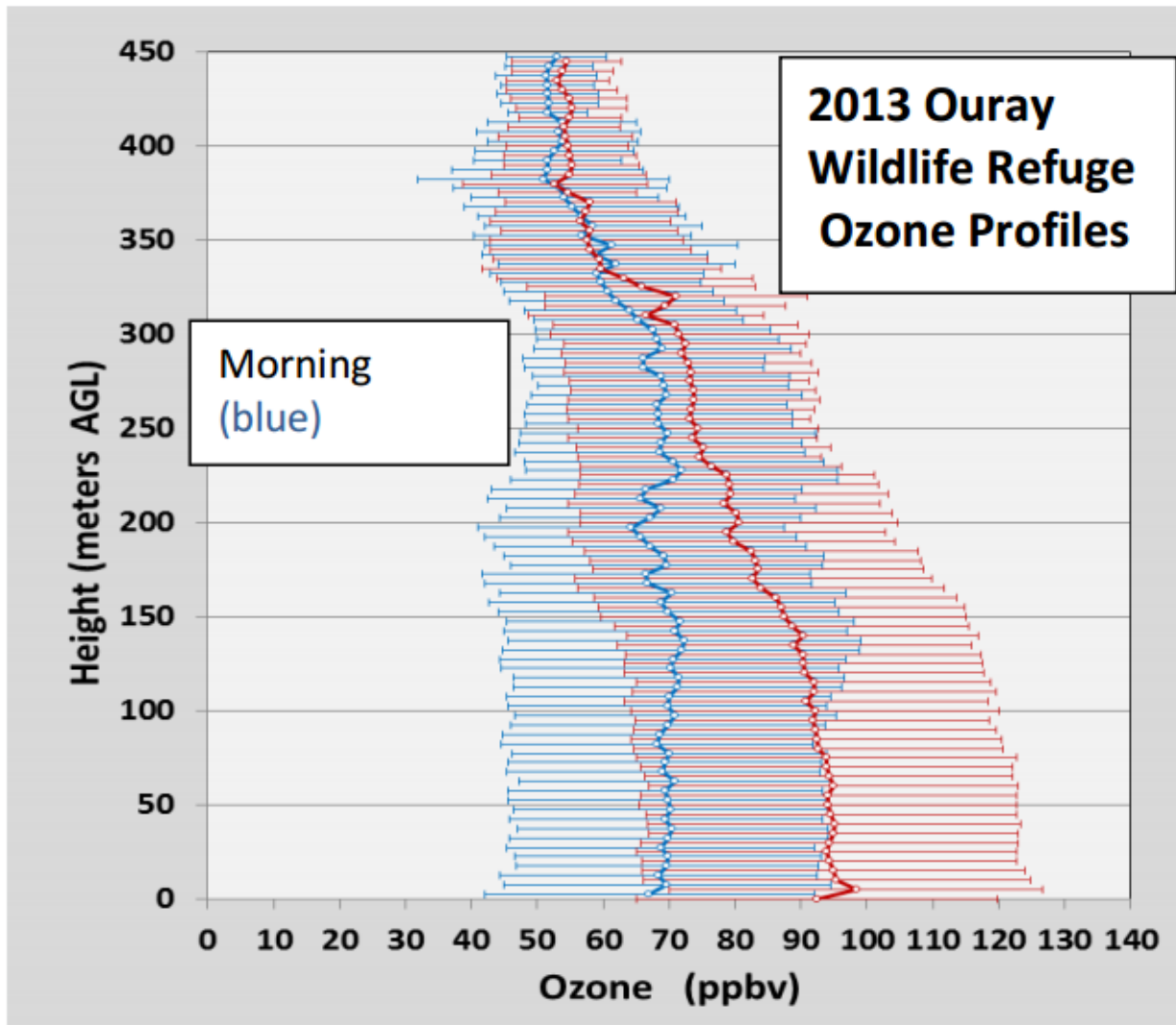


Figure 1. Summary plot of the 2013 average ozone mixing ratio and standard deviations measured at all sites during morning (between sunrise and local noon, in blue) and afternoon (noon to sunset, in red). Note the large range of ozone concentrations in 2013 and the large photochemical production of ozone in the afternoons.³²

At the Horsepool site, above ground level ozone was measured using the NOAA Tunable Optical Profiler for Aerosol and oZone (TOPAZ) lidar. The TOPAZ lidar found that peak ozone concentrations were often constrained to the lower 300 meters of the atmosphere (below an elevation of 6,134 feet). Thus, available measurements of vertical distribution of ozone on high ozone days, as well as the elevation of surface monitors in the Uinta Basin showing ozone violations support an upper boundary of 6,250 feet.

Comment: A commenter stated that the EPA has not identified the height of the inversion layer throughout the Uinta Basin on the worst ozone days. The EPA considered data about inversion layer

³² Final Report, 2013 Uinta Basin Winter Ozone Study, March 2014, ENVIRON (ed.), Section 8, Tethered Ozonesonde and Surface Ozone Measurements in the Uinta Basin, Winter 2013, p. 8-46; available in the docket for this action.

heights gathered with an ozonesonde from Ouray National Wildlife Refuge, but did not conduct similar analysis of inversion layer elevation throughout the rest of the Uinta Basin. The EPA's choice of a 6,250-ft elevation cap thus lacks a rational basis and is not supported by adequate evidence. Rather than set an arbitrary cap that excludes at least 8% of ozone precursor emissions, the EPA should simply designate the entire Uinta Basin as a nonattainment area without an elevation cap.

EPA Response: The burden was on the State and the EPA to determine how a boundary line should be drawn. Portions of the Uinta Basin have never recorded ozone exceedances or violations, and large portions lack any appreciable ozone precursor emission sources. The EPA used the available data on mixing height during winter temperature inversions and surface ozone measurements to conclude that an elevation of 6,250 feet would encompass mixing height on most winter ozone days, as well as encompassing all violating ozone monitors and those emissions under the mixing height which contribute to ozone violations. No additional data on mixing height indicating that a higher boundary would be appropriate is available. The 6,250 ft. elevation was used throughout the basin to define the portion of the basin contributing to and subject to ozone formation.

Comment: A commenter suggested that the EPA should consider potential future emissions in the Uinta Basin. Specifically, the commenter identified the Enefit proposed facility known as "South Project" which the commenter claims has the potential to emit 1,243 tons of NO_x and 244 tons of VOC once complete. They also noted that these sources of future emissions should be considered by the EPA in determining a nonattainment boundary.

EPA Response: The statutory language governing designations is not written to consider future violations or future contributions. Rather, the statute focuses on the present through phrases such as "does not meet" and "contributes." In designating areas, the EPA considers the most recent three-years of air quality data and also considers the most recent information on emissions and meteorology. Future projections are not considered for purposes of determining a current violation of the NAAQS or current contribution to a violation.

Comment: A commenter noted that the contribution to Colorado's elevated ozone levels further supports the EPA's intended nonattainment designation for the Uinta Basin – specifically, that emissions from Utah impact Class I visibility areas in Colorado. The commenter stated that the EPA should acknowledge this and incorporate findings about Utah's contribution to western Colorado's ozone problems into its final nonattainment designation decision.

EPA Response: The EPA appreciates the commenter's views, but visibility issues are addressed in separate provisions of the CAA and are outside the scope of this action.

Comment: A commenter stated that the EPA correctly expanded the recommended nonattainment boundary to ensure that it contains all violating monitors and emissions sources contributing to nonattainment. The commenter supports the EPA's proposed boundary of 6,250 ft.

EPA Response: The EPA appreciates the commenter's support but notes that it has modified the boundary for the final designation. The EPA still relies on 6,250 feet for setting the boundary, but as described above and in the TSD, is using a different methodology for identifying the precise border of the area.

Comment: A commenter alleged that emissions from oil and gas facilities are a major contributor to ozone pollution and cites to several sources supporting this statement in relation to air quality in the Uinta Basin.

EPA Response: The EPA appreciates the commenter's view and has recognized that oil and gas facilities are the predominant source of emissions in the Uinta Basin.

Comment: A commenter suggested that the EPA should pursue strategies along with the nonattainment designation to improve air quality in the Uinta Basin.

Response: Once areas are designated for a NAAQS, States – not the EPA – take primary responsibility for developing plans and choosing the sources to regulate in order to attain and maintain the NAAQS. For areas under Tribal jurisdiction, the EPA will work with the Ute Tribe to achieve meaningful emissions reductions to help bring the Uinta Basin into compliance with the 2015 ozone standard as expeditiously as possible.

Comment: A commenter noted that the Uinta Basin air quality continues to deteriorate, citing a (preliminary) 2015-2017 design value at the Ouray monitor of 89 ppb, up from the 2014-2016 design value of 80 ppb. They argue that this is evidence that a Moderate classification rather than a Marginal classification is needed in the area.

EPA Response: The designations reflect the most recent air quality monitoring data that was required to be certified (2014-2016), or data from 2015-2017 where a state or tribe has chosen to early certify such data. Utah and the Ute Indian Tribe of the Uintah and Ouray Reservation have not yet certified data for 2017; and at this time we are not certain what the design value will be for the area using 2015-2017 data. We note, however, that it is not unusual for design values to fluctuate and that a higher design value in one three-year period is not necessarily indicative of air quality “deteriorating,” but instead could be a function of meteorology. We respond earlier to requests that EPA immediately to reclassify the area to Moderate.

Comment: A commenter requested clarification to the TSD discussion on Pages 37-38 whether townships are included in the analysis for oil and natural gas well inclusion or if the percentages are based on elevation only.

EPA Response: For purposes of the preliminary 120-day TSD, the EPA intended to establish the boundary based on townships with land area greater than 10 percent below 6,250 ft. Thus, information provided in that TSD regarding the scope of oil and gas source emissions located in the nonattainment area was based on oil and gas sources located in townships with greater than 10 percent of land area below 6,250 ft. As noted, for the final designations, EPA is basing the nonattainment boundary on the contiguous 6,250-ft. elevation contour.

Comment: A commenter recommended a 6,000 to 6,250 topographic line for establishing the nonattainment area boundary or that townships should only be included in the nonattainment boundary if the majority of the land area in the township is below the 6,000 or 6,250 ft. elevation.

EPA Response: The EPA has established the nonattainment area boundary at the contiguous 6,250-ft elevation contour.

Comment: A commenter alleged that the map on p. 38 of the EPA's TSD is misleading and that the majority of land area identified as "Tribal" land is actually Ashley National Forest land. The commenter recommends Figure 17 of the TSD be corrected to show forest service land.

EPA Response: The map referred to by the commenter originated in the recommendation TSD submitted by the State. The EPA does not suggest or maintain that the map shows areas of tribal or state jurisdiction for air quality management. Rather, the map from Utah shows what is commonly referred to as the exterior boundary of the Uintah and Ouray Indian Reservation.

Comment: Several commenters requested that the EPA hold a public hearing in the Uinta Basin before official nonattainment area designations.

EPA Response: While not required specifically to do so under CAA section 107(d), the EPA invited public input on our responses to states and tribes regarding these areas during the 30-day comment period. For full consideration, input from the public was required to be submitted to the docket on February 5, 2018. The EPA believes the public comment period provides sufficient opportunity for members of the public to comment on this action, which is national in scope. EPA has reviewed and attempted to respond to all relevant comment received.

Comment: A commenter suggested that the EPA should explain how it has taken into consideration the complex emission sources, meteorology, and topography of Uinta Basin.

EPA Response: The EPA addressed emissions, meteorology and topography in the December TSD as part of the five factor analysis. The commenter does not indicate how that analysis is deficient. The EPA has included the five-factor analysis as part of the TSD for the final designations.

Comment: A commenter noted that historical ozone measurements show no correlation between ozone readings and oil and gas production, and that there is little reason to think that even shutting down all oil and gas production in the Uinta Basin completely would cause improved ozone readings in subsequent years.

EPA Response: We disagree with the suggestion that oil and gas production in the Uinta Basin is not related to elevated wintertime ozone levels. Winter ozone in the Uinta Basin occurs only during specific winter meteorological conditions. To form winter ozone, snow cover, persistent cold pool temperature inversions and sunlight must be present. While snow cover, persistent cold pool temperature inversions and sunlight occur in many areas, winter ozone has only been observed in two areas - the Uinta Basin and the Upper Green River Basin in Wyoming. In both of these areas significant oil and gas emissions of ozone precursors are trapped by the winter meteorology. Poor historical correlation between emissions and ozone levels is a result of the deterministic nature of the variability in interannual meteorology.

Comment: A commenter indicates that nonattainment designations and subsequent restrictions have a chilling effect on oil and gas production revenues, and place the Uinta Basin in a competitive disadvantage to other regional, national, and international oil and gas opportunities.

EPA Response: As an initial matter, we note that economic considerations are not relevant for determining whether an area violates the NAAQS or contributes to a violation in a nearby area. Nationally, existing oil and gas production areas do not appear to have been significantly negatively

impacted by being included in designated nonattainment areas (e.g., Denver-Julesburg and Wattenburg fields in the Denver nonattainment area, Barnett Shale in the Dallas-Fort Worth nonattainment area, and the Jonah and Pinedale fields in the Upper Green River Basin nonattainment area). Some (such as the Upper Green River Basin) have successfully attained the ozone NAAQS after initial nonattainment designation without significant curtailment of production and development. The others remain competitive and are seeing development while operating in current nonattainment areas.

Comment: A commenter cites evidence compiled by Dr. Seth Lyman that indicates the elevation limit could be 6,000 feet or lower, and to raise that level to 6,250 feet is arbitrary and capricious.

EPA Response: As previously noted, a boundary of 6,000 feet is not supported because areas above that elevation are violating the 2015 ozone NAAQS. We note that the commenter did not submit, nor directly cite the evidence they are relying on.

Comment: A commenter alleges that the criteria used by the EPA would capture 93% of Uinta Basin oil and gas wells within the nonattainment area and represent a substantial economic development impact to the region. The commenter claims that “this treatment of elevation levels is an example of government abusing its discretion in a way that negatively impacts property rights.”

EPA Response: The EPA increased the elevation level recommended by the state (6,000 feet) by 250 feet primarily to capture the violating Whiterocks monitor; but also to include areas with sources contributing to violations of the 2015 ozone NAAQS. The EPA disagrees that the criteria it uses to determine which areas to designate as nonattainment and the appropriate boundary for a nonattainment area is an “abuse of discretion.” These criteria directly relate to whether an area is violating the NAAQS or is contributing to air quality in an area violating the NAAQS and these are the statutory basis for designating an area as nonattainment. See CAA section 107(d)(1)(A)(i).

Comment: A commenter suggested that the EPA clearly distinguish areas of jurisdictional control for air quality requirements per the Clean Air Act.

EPA Response: In the final TSD and Part 81 tables, the EPA has clarified that the Uinta Basin nonattainment area includes land under both State and Tribal jurisdiction – and the State of Utah and Ute Tribe are responsible for 2015 ozone NAAQS implementation requirements in their respective jurisdictions.

3.2.9. EPA Region IX

3.2.9.1 Arizona

Yuma, AZ

Comment: One commenter proposed that the EPA expand the Yuma nonattainment area to include the area of high vehicle miles traveled (VMT) directly south of the exceeding monitor to capture more on-road sources of pollution in Yuma County. The commenter asserts that based on back trajectory modeling presented in the EPA’s TSD, it appears that the area to the south impacts the monitor in Yuma County on exceeding days.

EPA Response: Based on the analysis presented in our TSD, the EPA does not agree with the commenter that the EPA should modify the State’s recommended area to include the area south of the Yuma monitor as part of the nonattainment area. The boundary for the Yuma nonattainment area includes the violating

monitor and the most significant stationary sources of ozone precursor emissions in the county. As discussed in the EPA's TSD, HYSPLIT data shows that approximately 98 percent of back trajectories originate or flow through Mexico before reaching the Yuma monitor, indicating that exceedances at the Yuma monitor are heavily impacted by emissions sources in Mexico. As noted in the TSD for this area, the EPA's pollution transport modeling indicates that anthropogenic sources in all of Arizona contribute approximately 6% to the projected 2017 design value at the Yuma monitor. Emissions from the nearby Mexican municipalities of Mexicali and San Luis Rio Colorado are on the order of five times larger than emissions in Yuma County, and emissions in upwind Imperial County in California, which is also being designated nonattainment, are also considerably larger than Yuma County emissions. Emissions sources south of the city of Yuma down to the Mexican border comprise less than two percent of the area-wide total of ozone precursor emissions when emissions from the upwind areas in Mexico and Imperial County are considered. For these reasons, the EPA determined not to modify the boundary recommended by the state for the Yuma area.

3.2.9.2 California

Sacramento, CA

Comment: A commenter contended that the EPA should expand the proposed Sacramento Metro nonattainment area to include nearby Amador County, Calaveras County, the western portion of Nevada County, and all of Sutter County. The commenter stated that emissions sources and trajectories provide convincing evidence that ozone levels in these counties are driven primarily by emissions from the Sacramento metropolitan area and that following traditional nonattainment area boundaries ignores that fact. The commenter also asserted that there is a disconnect in the EPA's decision because all of Sutter County is part of the Sacramento-Roseville Combined Statistical Area but only the southern portion of Sutter County is included in the Sacramento Metro nonattainment area and the elevated Sutter Buttes are made their own isolated nonattainment area despite having no population or sources within the boundary.

EPA Response: The State requested that the EPA designate Amador, Calaveras, and Nevada counties as separate nonattainment areas from the Sacramento Metro area, consistent with how the areas were designated for both the 1997 and 2008 ozone NAAQS. These three counties are located in a separate air basin than the Sacramento Valley. As discussed in the California TSD, California has historically been divided into fifteen distinct air basins that were determined by grouping together areas with similar geographical and meteorological features. Amador, Calaveras, and Nevada counties are in the Mountain Counties Air Basin, to the east and southeast of the Sacramento Valley Air Basin. The Mountain Counties Air Basin consists of a group of counties that are similar in air quality, contain more pronounced topography, and are more rural in character as compared to the flatter and more populous metropolitan Sacramento Valley air basin to the west. Thus, geographical and topographical factors associated with California's air basins support separating Amador, Calaveras, and Nevada counties from the Sacramento Metro area. Placer County and El Dorado County are also located within the Mountain Counties Air Basin but are appropriately included in the Sacramento Metro area, and distinguished from the other counties in the Mountain Counties Air Basin, due to the extent of urbanized land use development radiating from the City of Sacramento along the Interstate 80 and U.S. Route 50 corridors passing through the two counties.³³ These two counties are more closely integrated with the urban core of the Sacramento Area. In addition, both air quality and transportation planning are carried out by different agencies in Amador, Calaveras, and Nevada counties than in the Sacramento Metro area. For instance, all the

³³ See population density, population growth, traffic, and commuting information presented in the Factor 2 discussions in the Sacramento Metro, Amador County, Calaveras County, and Nevada County (Western part) sections of the EPA's TSD for California.

counties in the Sacramento Metro area belong to metropolitan planning organizations (MPOs) that coordinate transportation planning and funding on a multi-county basis,³⁴ whereas Amador, Calaveras, and Nevada counties each have their own transportation planning agencies, consistent with the more rural nature of each of those counties.

The EPA believes that it is appropriate to also designate Sutter Buttes as a separate nonattainment area from the Sacramento Metro area. As discussed in the Technical Analysis for the Sutter County (Sutter Buttes) section of the California TSD, the violating monitor is atop a mountain at approximately 2,115 feet. The Sutter Buttes monitoring site was established at the special Sutter Buttes location specifically to assess transport aloft, rather than as an indicator of conditions in Sutter County. Its unique characteristics distinguish it from the other locations included in the Sacramento Metro, and warrants its status as a separate nonattainment area. Sutter County itself has no major pollution sources, and total county emissions are small compared to the more urbanized areas included in the Sacramento Metro area. There is no evidence of elevated ozone there aside from the peak of Sutter Buttes. A second monitor in Sutter County located on the valley floor in Yuba City is closer to higher population census tracts, small point sources, and areas of higher VMT and is attaining the 2015 NAAQS. Thus, the evidence suggests that the mountaintop area is predominately affected by transport from both the Sacramento Metro and San Francisco Bay areas, which EPA is also designating nonattainment. The Sutter Buttes boundary for the 2015 ozone standard is consistent with the nonattainment boundary for the 1997 ozone standard and the area has established, operational air planning mechanisms in place resulting from the previous designation.

Based on our analysis, the EPA also does not intend to modify the State's recommendation to designate part of Sutter County as attainment. As recommended by the State, the EPA is including a southern portion of Sutter County in the Sacramento Metro nonattainment area, consistent with the boundaries for the 1997 and 2008 ozone standards. The northern part of the county is being designated attainment, except for the area around the violating Sutter Buttes monitor, which is affected by wind and pollution conditions aloft rather than emissions from within Sutter County. As discussed above, the second Sutter County monitor located on the valley floor is attaining the 2015 NAAQS. Thus, because a monitor indicates that this portion of Sutter County is attaining and the evidence does not demonstrate a contribution to concentrations at a violating monitor, we do not intend to modify the State's recommendation.

3.2.9.3 Nevada

Las Vegas, NV

Comment: One commenter contended that EPA should expand the Las Vegas Nonattainment Area to include major sources of NO_x to the east of the Las Vegas Valley in Hydrographic Area 215. The commenter asserted that the two sources identified in the EPA's TSD as Nevada Cogeneration Associates #2 (near the northern end of Lake Mead) and PABCO Building (just east of the nonattainment area boundary) have the potential to influence monitors in the Las Vegas Valley, despite topographic and meteorological obstacles, based on lower elevation back trajectories presented in the EPA's TSD.

³⁴ The Sacramento Area Council of Governments (SACOG) is the MPO for El Dorado, Placer, Sacramento, Yolo and Sutter counties, and the Metropolitan Transportation Commission (MTC) is the MPO for Solano County.

EPA Response: First, the EPA would like to clarify the locations of the point sources discussed by the commenter. The commenter identifies Nevada Cogeneration Associates #2 as being near the northern end of Lake Mead; however, Nevada Cogeneration Associates #2 and PABCO Building Products are located just east of the Las Vegas Valley, within less than one mile of one another. These sources are difficult to distinguish on the maps in the EPA's TSD due to their proximity. The source near Lake Mead is J. R. Simplot Company (Simplot Silica Products). The EPA's TSD mistakenly identified this source as being in Hydrographic Area 215, but it is actually located in Hydrographic Area 220, near the border with Hydrographic Area 215. Given the error and to ensure we fully address the comment; the EPA is addressing all three of these sources in our response.

As discussed in the EPA's TSD, Nevada Cogeneration Associates #2 and PABCO Building Products are separated from the Las Vegas Valley by topographical barriers, including Sunrise Mountain, Frenchman Mountain, and several smaller, generally north-south trending ridges. The data indicate that winds during exceedance days are predominately from the southwest, originating in southern California and passing over locations in the southern half of Clark County. Of the 108 exceedances at violating monitors (occurring on 49 different calendar days), seven exceedances have HYSPLIT 24-hour back trajectories passing through the general area identified by the commenter. These trajectories tend to spend less time near the Nevada Cogeneration Associates #2 and PABCO Building Products source area and more time in the more heavily populated, high-VMT areas of the Las Vegas Valley. Furthermore, these point sources account for just 0.4% of total county NOx and VOC emissions,³⁵ the area is sparsely populated, and vehicle miles traveled (VMT) levels are low relative to the Las Vegas Valley.

As also discussed in the EPA's TSD and above, the predominant wind flow is not consistent with a contribution to violations from J.R. Simplot Company, the source near the northern tip of Lake Mead. While there are two exceedance days when back trajectories originate near J.R. Simplot Company, its emissions occur 24 hours away in transport time and more than 80 miles away in transport distance, and are likely dispersed by the time they reach monitors in the Las Vegas Valley. Furthermore, wind does not typically flow directly from the area towards the Las Vegas Valley – trajectories originating near J.R. Simplot Company typically also travel through the more heavily populated, high-VMT areas of the Las Vegas Valley (from the south to the north) before reaching the violating monitors. The area near J.R. Simplot Company is sparsely populated and is characterized by low VMT relative to the Las Vegas Valley, and J.R. Simplot Company, which is the only point source in Hydrographic Area 220, accounts for just 0.1% of total county NOx and VOC emissions.

For these reasons, EPA does not believe that an evaluation of the five factors supports modification of the State's recommendation to include the areas near these sources as part of the designated nonattainment area.

3.2.10. EPA Region X

The EPA received no comments from either the public or states and tribes pertaining to the areas in Region X.

³⁵ Emissions information are based on 2014 National Emissions Inventory (NEI) data.

3.2.11. Multi-State Areas

3.2.11.1 New York-Northern New Jersey-Long Island, NY-NJ-CT

Comment: A commenter noted that none of the counties in Pennsylvania are included in the NYC area, eliminating Pennsylvania's impact on anticipated Moderate nonattainment area planning for the area.

EPA Response: Conducting a five-factor analysis on the given CSA is the basis for including or excluding any particular county within the CSA. The EPA conducts area-specific analyses to support nonattainment area boundary recommendations and final boundary determinations by evaluating factors such as air quality data, emission and emissions-related data, meteorological data, geography/topography and jurisdictional boundaries.

As the NYMA TSD explains, EPA has excluded the counties of Dutchess, Orange, Putnam and Ulster in New York; and Carbon, Lehigh, Monroe, Northampton and Pike in Pennsylvania from the New York Metro nonattainment area because of the area-specific factors analysis EPA concluded that the excluded counties' contributions were not sufficient to include them in the nonattainment area. We explain why we excluded other counties in Pennsylvania that are outside the CSA in other responses to comments.

While Pennsylvania is not included in the NYMA nonattainment area, it is already part of the Ozone Transport Region and therefore has planning requirements similar to a Moderate nonattainment area, including RACT and New Source Review (NSR). Moreover, Pennsylvania in its entirety, is subject to the regional transport requirements and is part of the CSPAR and its Update.

Comment: A commenter suggested that Pennsylvania should be included in an expanded nonattainment area because EPA's CSAPR Update modeling showed it contributed more to nonattainment monitors in southwest Connecticut than in-state sources by as much as a factor of two and contributed as much, or more, than New Jersey.

EPA Response: As noted, the starting point for analyzing the designation of an area is the CSA. The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any "nearby" area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily "nearby" but contribute to nonattainment through long-range transport. EPA used a similar approach with the 1997 and 2008 ozone NAAQS. Furthermore, the Clean Air Act Amendments of 1990 set, by operation of law, the boundaries for Serious, Severe, and Extreme nonattainment areas for the 1979 1-hour ozone NAAQS as the metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census).

Comment: A commenter noted the EPA did not evaluate the emissions from the entire New Jersey CSAs.

EPA Response: The EPA evaluated the entire New York-Newark, NY-NJ-CT-PA CSA and the entire Philadelphia-Reading-Camden, PA-NJ-DE-MD CSA in its corresponding TSDs. These two CSAs include the entire State of New Jersey.

Comment: A commenter contended that the EPA's TSD did not address New Jersey's technical data or evaluate the emissions of all of the counties in the CBSA/CSA, or provide a basis for why the technical data provided by New Jersey were not adequate for including these counties in the recommended ozone nonattainment area.

EPA Response: The EPA evaluated the entire New York-Newark, NY-NJ-CT-PA CSA and the entire Philadelphia-Reading-Camden, PA-NJ-DE-MD CSA in its corresponding TSDs and made note of New Jersey's recommendation. The State made a recommendation for a super-regional area including parts of several nonattainment areas. The EPA reviewed and fully evaluated the State's recommendation, in addition to other states' recommendations for the designation process. In the EPA's factor analysis, the analytical starting point for the designation of an area is the CSA. The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any "nearby" area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily "nearby" but contribute to nonattainment through long-range transport.

Comment: A commenter noted that NJDEP's November 2016 designation recommendation is consistent with EPA's guidance, because it considered the entire CSA, which includes the Allentown/Bethlehem/Easton and East Stroudsburg, PA Metropolitan Statistical Areas. Adding these "nearby" counties to New Jersey's northern ozone nonattainment area would add the Commonwealth of Pennsylvania to the ozone planning process for the northern New Jersey nonattainment area to address their significant portion of the ozone nonattainment.

EPA Response: The EPA evaluated the entire New York-Newark, NY-NJ-CT-PA CSA in its corresponding TSD for the NYMA. Consistent with EPA's Designation Guidance, the analysis is based on the counties within the CSA, not on the overall contribution of the Commonwealth of Pennsylvania. The EPA evaluated the counties of Pike, Monroe, Northampton and Lehigh, Pennsylvania based on air quality data, emission and emissions-related data, meteorological data, geography/topography and jurisdictional boundaries, and concluded that the excluded counties' contribution was not sufficient to include them in the nonattainment area.

Comment: A commenter noted the EPA's five-factor analysis must be the criteria for determining the extent of nonattainment, independent of state recommendations.

EPA Response: The EPA agrees that EPA has an independent role in the designations process, and that the Administrator must designate area as he deems appropriate and consistent with the CAA provisions governing area designations. EPA fully considers state recommendations and supporting information within the framework of a five-factor analysis.

Comment: A commenter pointed out that the NYC TSD reviews the five factors for areas outside the NYC CSA, but does not distinguish between the differing effects of emissions of VOCs and NOx. Using a 10,000 per year per county (or lower) threshold for NOx alone would help address the lack of Pennsylvania counties in the NYC nonattainment area. Using VOC and NOx at the same threshold, despite their differing effects, does not have a technical basis, since even in nearby locations NOx control is more effective than VOC control. The NYC metro nonattainment area needs to be expanded to counties in Pennsylvania with higher NOx emissions

EPA Response: The New York-Newark, NY-NJ-CT-PA CSA, with the additional county of Middlesex in Connecticut, was the area of analysis for the NYMA TSD. The counties in Table 1, with the exception of Middlesex County in Connecticut, are part of this CSA. Mercer and Ocean (NJ) counties in the CSA were excluded from the area of analysis because they were analyzed as part of the current Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE nonattainment area and discussed in separate TSDs.

Within the “nearby” area the EPA reviewed county-wide emissions of nitrogen oxides (NOx) and VOCs in the area of analysis, and the EPA also reviewed emissions from large point sources and mapped the sources out during its analysis. The EPA looked at both the NOx and VOC emissions from each of the counties along with the analysis of the remaining factors to conclude the basis for inclusion or exclusion of the counties in the designation area.

With respect to the excluded Pennsylvania counties in the NYMA CSA, we disagree that distinguishing between NOx and VOC emissions would have resulted in including any of those counties in the New York nonattainment area. To briefly reiterate the EPA’s analysis in the TSD, only one of the Pennsylvania counties, Northampton, has more than 10,000 total NOx tons per year (tpy), and other relevant factors point against including all the counties, including Northampton, as part of the nonattainment area. Specifically:

- The emissions and emissions-related data. Carbon, Lehigh, Monroe and Pike counties have less than 10,000 total NOx tons per year (tpy), while only Northampton County has more than 10,000 – it has 12,944 total NOx tpy. All five counties have less than 10,000 total VOC tpy.
- Population density and degree of urbanization. The population in these counties ranges from 55,000 to 360,000 people.
- Traffic and VMT. Carbon and Pike counties were the lowest counties for 2014 total VMT within the CSA, while none of the five counties had more than 20% of commuters commuting to counties with violating monitors.
- Meteorology. Based on the HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) data and the overall Ozone Concentration/Wind Direction Frequency Plots for a Coastal Monitor (Westport), the EPA concluded the typical trajectories for exceedance days was from the southwest towards the northeast, minimizing the potential impacts of the five Pennsylvania counties within the CSA (which are mostly western).
- Geography/topography. These considerations did not directly impact the conclusions.
- Jurisdictional boundaries. The EPA considered existing jurisdictional boundaries and considered the pre-existing nonattainment boundaries for the New York Metro area. As noted, EPA’s intended boundary for the nonattainment area is the same as EPA’s previously established nonattainment boundaries associated with the 1997 and 2008 ozone NAAQS.

Based on the EPA’s analysis of all the factors, the EPA excluded from the NYMA nonattainment area the five Pennsylvania counties in the CSA.

Comment: A commenter noted the New Jersey’s TSD demonstrate that the VOC and NOx emissions from particular Pennsylvania counties are much greater than the emissions from the counties within New Jersey that are already a part of the ozone nonattainment areas.

EPA Response: As noted, the EPA used a full five-factor analysis to determine if a county was excluded or included in its designated areas within each CSA. Using a single factor to determine applicability would not be valid. See corresponding TSDs.

Comment: A commenter pointed out that Lehigh, Northampton, Monroe, and Pike counties in Pennsylvania have over 37,000 daily commuters into New Jersey. It appeared to the commenter that the EPA did not evaluate this data since there is no response to New Jersey's analysis within EPA's TSDs.

EPA Response: The EPA evaluated Lehigh, Northampton, Monroe, and Pike counties in Pennsylvania, as they are part of the NYMA CSA. As noted, a full five-factor analysis was performed for the five Pennsylvania counties that are in the NYMA CSA, including evaluating the extent of commuting from each of those counties to counties with violating monitors. See NYMA TSD, Table 5. Traffic and

Commuting Patterns. After considering that information, as well as the other factors, the EPA excluded these counties from the designated area.

3.2.11.2. *Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE*

Comment: A commenter stated that including New Castle County, Delaware, in the Philadelphia Non-Attainment Area (NAA) will not produce additional emission reductions or reduced impacts on other counties because Delaware is already implementing all Marginal or Moderate nonattainment area requirements. The commenter states that EPA includes New Castle County in the proposed 2015 Philadelphia NAA rationalizing that it is "nearby" whereas EPA arbitrarily excludes upwind areas which are causing the area's problem because they are not "nearby." Delaware's impact on the Philadelphia NAA is dwarfed by the impact of pollution which is transported into the region. Delaware is being harmed by being subject to the nonattainment area provisions of the CAA while upwind areas that are the primary cause of the problem are not subject to such provisions. As a result, cost effective emissions reduction opportunities outside the Philadelphia NAA area will not be realized, and the uncontrolled or under-controlled sources that are contributing to the problem will remain so.

EPA Response: CAA section 107(d)(1) directs the EPA to designate as nonattainment any area that does not meet (or that contributes to ambient air quality in nearby areas that does not meet) the NAAQS. New Castle County, Delaware, has a monitor violating the 2015 ozone NAAQS based on the most recent three years of air quality monitoring data; for that reason, New Castle County must be designated nonattainment under CAA section 107(d)(1). The EPA does not arbitrarily exclude areas that are not "nearby" from the nonattainment area. Rather, the EPA is acting in accordance with the EPA's guidance when determining that New Castle County should be included in the Philadelphia Nonattainment Area, discussed in the TSD for the Philadelphia area (EPA-HQ-OAR-2017-0548-0083). The EPA determined that emissions from sources in "nearby" areas, such as New Castle County, and neighboring area in Pennsylvania, New Jersey, and Maryland are contributing to local air quality.

Outside of the designations process, the CAA requires that states prohibit certain emissions from in-state sources if such emissions impact the air quality of downwind states. *See* CAA section 110(a)(2)(D)(i). The EPA does not dispute that certain named upwind states in the petition might impact air quality in one or more downwind states that are measuring violations of the 2008 ozone NAAQS. However, the EPA believes that states and the EPA can effectively address the upwind states' impacts on downwind ozone air quality through the good neighbor provision. The EPA has already taken steps to address interstate transport with respect to the 2008 ozone NAAQS through the promulgation of the CSAPR Update, which reduces emissions starting with the 2017 ozone season. The EPA used the authority of CAA sections 110(a)(2)(D)(i)(I) and 110(c) to tailor a remedy focused on the precursor pollutant most likely to improve ozone levels (currently NO_x) in downwind states and those sources that can most cost-effectively reduce emissions within a limited timeframe (*i.e.*, EGUs). 82 FR 51245.

Germaine to this discussion, the EPA further considered Delaware's nonattainment with the 2008 ozone NAAQS (in New Castle County) and that cost-effective controls required by the OTR requirements should be applied, in its response to the petition filed by some OTR states (including Delaware) to expand the size of the OTR under section 176A of the Act. *See* Dec. 9, 2013 Petition Seeking Expansion of OTR at <http://www.regulations.gov>, Docket No EPA-HQ-OAR-2016-0596. The EPA's full response to the petition is set forth at 82 FR 51238 (Nov. 3, 2017). *See also* Proposed Response to Section 176A Petition, 82 FR 6509 (Jan. 19, 2017).

Comment: The State of Delaware commented that because the EPA has chosen not to align the nonattainment areas with the scope of the problem (*i.e.*, designating the smallest areas possible as

nonattainment), the state requests that New Castle County be designated as a stand-alone nonattainment area, rather than be included in the Philadelphia NAA.

EPA Response: As explained in the TSD for the Philadelphia Area (pp. 2-5), the starting point used by the EPA in evaluating appropriate boundaries for a nonattainment area is the CSA or CBSA in which a violating monitor is located. This is consistent with the approach Congress specified for Serious and above areas for the 1-hour ozone NAAQS for designations immediately following passage of the Clean Air Act Amendments of 1990 (*see* section 107(d)(4)(A)). This is the same approach the EPA used for designations for the 1997 and 2008 ozone NAAQS and the approach the EPA said it would follow in setting nonattainment area boundaries for the 2015 ozone NAAQS. *See* EPA’s Designations Guidance for the 2015 NAAQS, <https://www.epa.gov/ozone-designations/epa-guidance-area-designations-2015-ozone-naaqs>. The EPA then performs a five-factor analysis to determine whether any of the counties in the CSA are likely to contribute to nonattainment in another county. As noted in the TSD, HYSPLIT back trajectories indicate that emissions from New Castle County impact most violating monitors in the Philadelphia CSA. There is a high density of trajectories through New Castle County to monitor 240150003 in Cecil County, Maryland; monitor 340070002 in Camden County, New Jersey, monitor 340150002 in Gloucester County, New Jersey; monitor 420450002 in Delaware County, Pennsylvania; and monitors 421010024 and 421010048 in Philadelphia County, Pennsylvania. Similarly, emissions from nearby counties in neighboring Pennsylvania, New Jersey, and Maryland impact violations in New Castle County. Based on this and other information, the EPA made a determination that New Castle County is appropriately included with neighboring counties in the Philadelphia area. TSD, pp. 58-72.

Comment: A commenter noted that Delaware’s impact on the Philadelphia NAA is dwarfed by the impact of pollution transported into the region.

EPA Response: The standard in section 107(d)(1) for designating an area as nonattainment is “any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet)” the standard. The question of the degree of contribution necessary to include a nearby area in a nonattainment area was addressed by the Court in *Catawba County v. EPA*, 571 F. 3d. 20 (D.C. Cir. 2009). In that case, the Court found that section 107(d) was ambiguous regarding how EPA is to measure contribution and “*what degree of contribution is sufficient to deem an area nonattainment . . .*” *Id.* at 39 (emphasis added). The court determined that EPA reasonably applies its multi-factor analysis to each specific case in evaluating whether counties in the metropolitan area “sufficiently contribute” for purposes of including a county as part of the nonattainment area. *Id.* The issue of whether regional pollution sources that are not “nearby” also contribute or contribute larger amounts, while an important part of the context of understanding the nature of the ozone problem in each area, is not central to our analysis and conclusion that New Castle County is interconnected to the greater Philadelphia area, and has emissions that contribute to nonattainment in other nearby counties in the Philadelphia area, and that emissions from the nearby counties in Maryland, New Jersey, and Pennsylvania, all surrounding New Castle County, contribute to nonattainment in New Castle County.

Comment: A commenter noted that the CAA requirement for RACT in the OTR has helped reduce emissions in the OTR via reasonably available and economically feasible controls, and there is no reason why all major upwind sources should not have RACT level controls.

EPA Response: The EPA appreciates the commenter’s views; however, the issue of imposing RACT on all upwind sources goes beyond the scope of designations which, as previously noted, address designation of areas violating the standard and areas contributing to air quality as a nearby violating monitor. As noted in the previous response, the EPA has separately addressed a petition from Delaware requesting that EPA expand the OTR and thus subject additional areas to the RACT requirement that applies to areas in the OTR.

Comment: A commenter pointed out that the EPA’s likely classification of the Philadelphia Area and other upwind areas as “Marginal” nonattainment will likely not result in new or upgraded controls in those areas, so upwind ozone and transport of precursors from areas upwind of Delaware will not be sufficiently mitigated.

EPA Response: As stated in EPA’s response to the section 176A petition, EPA believes that the measures adopted under Section 110(a)(2)(D)(i)(I) of the Act, such as CSAPR and the CSAPR update, and other emission reduction requirements for on-road and non-road mobile sources adopted under other provisions of the Act, will effectively reduce the emission of NOx and VOCs that contribute to ozone formation from upwind areas that are not part of the designated nonattainment area. *See* 82 FR 51244.

Comment: The PADEP recommended that Montgomery County should be removed from the Philadelphia area because the monitor is attaining and EPA has reduced the size of nonattainment areas boundaries to be smaller than the core based statistical area (CBSA)/CSA. Pennsylvania cites the following examples of areas where EPA’s intended boundaries for the 2015 ozone NAAQS contain fewer counties than the same areas for the 2008 ozone NAAQS.

Nonattainment Area	Ohio Counties for the 2008 NAAQS	Proposed Ohio Counties for the 2015 NAAQS
Cincinnati, OH-KY-IN	Butler Clermont Clinton Hamilton Warren	Butler Clermont Hamilton Warren
Cleveland-Akron-Lorain, OH	Ashtabula Cuyahoga Geauga Lake Lorain Medina Portage Summit	Cuyahoga Geauga Lake Lorain Medina Portage Summit
Columbus, OH	Delaware Fairfield Franklin Knox Licking Madison	Delaware Fairfield Franklin Licking

EPA Response: The EPA agrees that the boundaries for a nonattainment area for the 2015 ozone NAAQS need not be identical to the boundaries for the 2008 ozone NAAQS and that for several areas the EPA has agreed with state recommendations to designate a different, typically smaller, area as nonattainment for the 2015 ozone NAAQS. Each decision on whether an area is included as part of the nonattainment area is based on a five-factor analysis considering all of the counties within the area of analysis. As an initial matter, we note that Pennsylvania’s recommendation to exclude Montgomery County relies solely on the fact that Montgomery County is not violating the 2015 ozone NAAQS based on the most recent three years of air quality data.

Although Pennsylvania did not provide support to show that Montgomery County is not contributing to air quality at other monitors in the Philadelphia area, the EPA believe that it’s five factor analyses for

Montgomery County distinguishes that County from Clinton County in the Cincinnati area, Ashtabula County in the Cleveland-Akron-Lorain (Cleveland) area, and Knox and Madison Counties in the Columbus area.

As stated in the Cincinnati TSD (EPA-HQ-OAR-2017-0548-0095), Clinton County has relatively low NO_x and VOC emissions, population, population density, and VMT, and less dense HYSPLIT back trajectories than the counties included in the nonattainment area. In the Cincinnati area of analysis, Clinton County is ranked 12th for NO_x emissions and 9th for VOC emissions. Clinton County is 10th in population and 9th in population density. Clinton County has low VMT, accounting for less than 3 percent of CSA VMT. The 2014-2016 HYSPLIT back trajectories show that transport winds blew predominantly from the west southwest, southwest, southeast and east directions during times when the violating monitors in the Cincinnati area measured exceedances of the 2015 ozone NAAQS. Clinton County is in the northeastern portion of the area of analysis. Clinton County has a less dense pattern of back trajectories. These combined factors informed the EPA's decision to exclude Clinton County from the Cincinnati area.

As stated in the Cleveland TSD (EPA-HQ-OAR-2017-0548-0094): "While Ashtabula County has moderate emissions as compared to other counties in the area of analysis (17% and 23% of Cuyahoga County's NO_x and VOC emissions, respectively), the county ranks relatively low in population density and VMT and has only two HYSPLIT trajectories that pass through the county on days that the violating monitors are exceeding the NAAQS." The 2014-2016 HYSPLIT back trajectories show that transport winds blew predominantly from the west, southwest, and south during times when the violating monitors in the Cleveland area measured exceedances of the 2015 ozone NAAQS. Together, these figures show a dense pattern of HYSPLIT back trajectories across counties in the western, southwestern, and southern portions of the area of analysis. Ashtabula is in the northwestern portion of the Cleveland area of analysis and only two back trajectories cross it, which is the fewest within the area of analysis. These factors support EPA's decision to exclude Ashtabula County from the Cleveland area.

As stated in the Columbus TSD (EPA-HQ-OAR-2017-0548-0094), Knox County has very few HYSPLIT back trajectories passing over it, and "does not stand out sufficiently with respect to any of the other factors to support inclusion in the nonattainment area." In the Columbus area of analysis, Knox County ranks 15th in NO_x emissions and 11th in VOC emissions, 8th in population and population density, and 15th on VMT. Similarly, although Madison County has a moderately dense pattern of HYSPLIT back trajectories, those trajectories pass almost completely through Franklin County, which has much higher emissions, before reaching the violating monitor. Madison County ranks 10th in NO_x and 13th in VOC emissions, 12th in population and population density, 8th in VMT, and 7th in number of workers commuting to or within a county with a violating monitor. These combined factors informed EPA's decision to exclude Knox and Madison Counties from the Columbus area.

By contrast, as stated in the Philadelphia TSD (EPA-HQ-OAR-2017-0548-0097), Montgomery County ranks second in both NO_x and VOC emissions in the Philadelphia area of analysis. Montgomery County ranks second in population, fourth in population density, and first in VMT. Numerous HYSPLIT back trajectories pass through Montgomery County on their way to the various violating monitors in the Philadelphia area, with a high density of trajectories through Montgomery County to the violating monitors in Bucks County, PA, Mercer County, NJ, and Philadelphia County, PA (monitor 421010024). This means that the dominant winds on days when the monitors in Bucks County, PA, Mercer County, NJ, and Philadelphia County, PA go through Montgomery County. Therefore, Montgomery County is upwind of and therefore contributing to, those violating monitors. Considering these factors, EPA reasonably concludes that emissions from Montgomery County contribute to air quality at violating monitors in the Philadelphia area.

Comment: The PADEP stated that while EPA’s TSD shows that 90.1 percent of commuters who live in Montgomery County commute to counties with violating monitors, after EPA concurs on Pennsylvania’s EE demonstration, that figure will be 42.2 percent.

EPA Response: The EPA notes that 42 percent of commuters from Montgomery County commuting to counties with violating monitors is not a small percentage. In addition, the percentage of commuters to counties with violating monitors is only one sub-factor in the EPA’s five factor analysis. As described above, EPA’s analysis as set out in the Philadelphia area TSD (EPA-HQ-OAR-2017-0548-0097) shows that other factors support a conclusion that emissions from Montgomery County contribute to nearby violating monitors in the Philadelphia area, and therefore Montgomery County should be included in the Philadelphia nonattainment area.

Comment: A commenter noted that the Philadelphia TSD does not evaluate outside counties’ potential influences on its nonattaining monitors.

EPA Response: The Philadelphia TSD evaluates the Philadelphia-Reading-Camden, PA-NJ-DE-MD CSA in addition to Mercer and Ocean Counties in New Jersey. Consistent with the approach Congress adopted in 1990 for areas classified as Serious or higher for the 1-hour ozone NAAQS, EPA recommended to states that they use (and EPA indicated in guidance³⁶ that it would use) Core Based Statistical Areas (CBSAs) or Combined Statistical Areas (CSAs) as a starting point for considering the geographic boundaries for ozone nonattainment area for the 2015 ozone NAAQS. This boundary could be adjusted to either include additional areas or exclude areas based on EPA’s analysis five factors, to evaluate nearby contribution to the violating monitors.³⁷ EPA believes that factor analysis is a logical way of assessing nearby contribution and thus determining whether specific areas should be included as part of the designated nonattainment area.

The current Philadelphia TSD evaluates the nearby areas that impact the nonattainment monitors. Going beyond the nearby areas and addressing ozone transport is beyond the scope of this designation because other provisions of the Act address longer-range ozone transport and the designation provisions require only that “nearby” areas that contribute to violations of the NAAQS be included as part of the nonattainment area.

Comment: A commenter stated that the Pennsylvania counties of Berks, Lebanon, Lancaster and York should be included in New Jersey’s southern multi-state ozone nonattainment area. These counties have large amounts of VOC and NOx emissions that are transported on high ozone days to New Jersey. These four counties should be added to the southern multi-state ozone nonattainment area.

EPA Response: As noted, the starting point for analyzing the designation of an area is the CSA. The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any “nearby” area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily “nearby” but contribute to nonattainment through long-range transport.

³⁶ EPA’s February 25, 2016 guidance memorandum, “Area Designations for the 2015 Ozone National Ambient Air Quality Standards

³⁷ EPA has used area-specific analyses to support nonattainment area boundary recommendations and final boundary determinations by evaluating factors such as air quality data, emission and emissions-related data, meteorology, geography/topography and jurisdictional boundaries.

The EPA used a similar approach with the 1997 and 2008 ozone NAAQS. Furthermore, the Clean Air Act Amendments of 1990 set, by operation of law, the boundaries for Serious, Severe, and Extreme nonattainment areas for the 1979 1-hour ozone NAAQS as the metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census).

The counties of Lebanon, Lancaster and York, Pennsylvania, are not part of the Philadelphia CSA (Philadelphia-Reading-Camden, PA-NJ-DE-MD CSA). The EPA evaluated the factors for Berks County, Pennsylvania, and determined based on the factors that the County should be designated as separate from the Philadelphia area. However, EPA stated in its December 20, 2017 letter to Governor Tom Wolf (EPA-HQ-OAR-2017-0548-0145), that, if EPA approves Pennsylvania's exceptional events (EE) demonstration, the 2014-2016 design value for the Berks County monitor would move from violating to attaining the 2015 ozone NAAQS. In that case, EPA would revise its recommendation for the Reading Area to attainment/unclassifiable. The EPA concurred on Pennsylvania's EE demonstration for the Reading airport ozone monitor (monitor 420110011) in Berks County on March 6, 2018. Therefore, EPA is designating Berks County as attainment/unclassifiable. Please see corresponding TSDs for more information.

PA's analysis of all the factors, the EPA excluded the five Pennsylvania counties in the CSA.

Comment: A commenter suggested that the Philadelphia area should be expanded to include counties westward to the high-emitting counties in Pennsylvania.

EPA Response: As noted, the starting point for analyzing the designation of an area is the CSA. The EPA does not believe that creation of a larger nonattainment area to address pollution transport is the appropriate approach. As an initial matter, section 107(d)(1) provides that areas designated nonattainment should include any "nearby" area contributing to a violation of the NAAQS. We believe that broad super-regional areas go beyond this by including areas that are not necessarily "nearby" but contribute to nonattainment through long-range transport.

The only county excluded from the nonattainment area that is within the Philadelphia-Reading-Camden, PA-NJ-DE-MD CSA is Berks County. The EPA evaluated the factors for Berks County, Pennsylvania, and determined based on the factors that the County should be designated nonattainment as a single-county area separate from the Philadelphia area. Importantly, meteorology shows, in Figures 6a-e and 6g-o in the TSD, that violating monitors in the Philadelphia-Wilmington-Atlantic City area are generally not impacted by Berks County relative to other counties in the area of analysis. The HYSPLIT back trajectories for the violating monitors in the area of analysis are predominantly from the south and southwest and Berks County is to the west or northwest of the other counties in the area of analysis. Please see corresponding TSDs for further information.

3.2.11.3. Washington, DC-MD-VA

Comment: A commenter asked for clarification and confirmation that Montgomery County, Maryland (MD) is included in the EPA's proposed Washington, DC-MD-VA nonattainment area for the 2015 ozone NAAQS. The TSD, which the EPA provided for the proposed Washington, DC-MD-VA nonattainment area, stated that: 1). The State of Maryland had requested that Montgomery County be included in the Washington, DC-MD-VA nonattainment area, and 2). according to the Agency's own analysis in its TSD, Montgomery County should be included in the designation recommendation. However, the EPA neglected to verify Montgomery County as included in the proposed nonattainment area in table 1 of the TSD and in its initial 120-day letter to Maryland. The commenter asks that the EPA confirm that Montgomery County, MD is included in the proposed Washington, DC-MD-VA nonattainment area for the 2015 ozone NAAQS.

EPA Response: The EPA erred in its TSD for the proposed Washington, DC-MD-VA nonattainment area for the 2015 ozone NAAQS, by neglecting to include Montgomery County, MD in table 1, which lists the counties that the Agency proposed to include in the Washington, DC-MD-VA nonattainment area for the 2015 ozone NAAQS. In a December 20, 2017 120-day letter to the State of Maryland, the EPA also neglected to include Montgomery County, MD in the list of counties that the State had recommended to be included in the Washington, DC-MD-VA nonattainment area as well as the counties that the EPA intended to designate as part of the area. The EPA became aware of its error shortly after publication of the TSD in the Federal Register on January 5, 2018. By letter dated February 9, 2018, the EPA notified Maryland's Governor Hogan of this mistake and confirmed that the EPA supports the State's recommendation by proposing that Montgomery County, MD be designated as part of the Washington, DC-MD-VA nonattainment area. A copy of the letter was published in the Federal Register on February 23, 2018 and placed in the docket for this matter.

3.2.11.4 *Louisville, KY-IL*

Comment: A commenter agreed with and incorporates by reference comments submitted to this docket from the Rural Electric Cooperative Association, the Kentucky Division for Air Quality and the Midwest Ozone Group.

EPA Response: The EPA notes that it did not receive comments regarding the EPA's intended nonattainment boundaries from the Kentucky Division of Air Quality or the Rural Electric Cooperative Association. To the extent the commenter is referring to any Kentucky Division of Air Quality 2016 ozone designation recommendations for the 2015 ozone NAAQS, Kentucky recommended a designation of attainment/unclassifiable for the Louisville Area and did not include an analysis for the Louisville Area. Their recommendation was based on attaining ambient air quality data from 2013, 2014 and 2015. The EPA must use the most recent three-years of quality assured, certified ambient air quality data and therefore, the EPA is using 2014, 2015 and 2016 data which shows a violation of the 2015 ozone NAAQS. Based on this data, the EPA conducted a five factor analysis that is found in this docket in the Louisville, Kentucky TSD. As a result of this analysis, the EPA is designating the county with a violating monitor, Jefferson County, Kentucky, and four other counties (two more in Kentucky and two in Indiana) as the Louisville nonattainment area. The EPA did receive comments from the Midwest Ozone Group and addresses those comments in separate summaries and responses in this response to comment document.

Comment: A commenter asserted that the Louisville air quality designation for the 2015 Ozone NAAQS impacts the East Kentucky Power Cooperative's (EKPC's) Bluegrass Station located in Oldham County, Kentucky, and that the EPA should re-evaluate the EPA's analysis of the Louisville KY-IN area as it pertains to Oldham County, Kentucky, and should designate Oldham County, Kentucky as unclassifiable/attainment based on the following:

- FACTOR 1 - the Oldham County monitor is in attainment with the 2015 Ozone NAAQS and therefore, the EPA focused its analysis on determining whether Oldham County is an area that contributes to the NAAQS violation in Jefferson County, the only surrounding county with a violating monitor.
- FACTOR 2 - The commenter provided the following additional information and asserts that it was not provided in the EPA's TSD but that it demonstrates that Oldham County should be designated attainment:
 - The Kentucky Transportation Cabinet data showing I-71 traffic counts suggests that "...mobile source emissions are a large contributor to air quality in Oldham County, rather than the other sources of emissions within the county..." They suggest that the EPA perform additional analysis of mobile source emissions, e.g., the benefits of reformulated gasoline and "nitrous oxide (NOx)" controls on compression ignition engines should be better understood

- and quantified. The commenter concludes from this that "...EPA should not impose restrictions on stationary sources that are not a primary contributor to air quality concerns in the Louisville area." The commenter states that a large number of commuters into Jefferson County come from Jefferson County and that "...reformulated gasoline demonstrates the path to NAAQS compliance, rather than more stringent regulation of point sources in Oldham County."
- The commenter described the Bluegrass Station as a minor Title V/Prevention of Significant Deterioration (PSD) source that operated zero hours in 2014, 484 hours in 2015 and 355 hours in 2016, with normal load peak in the winter and the commenter contends, therefore, the Bluegrass Station is not a contributor to Jefferson County ozone air quality. The commenter contended that "Imposition of stricter controls on minor stationary sources like Bluegrass will not affect the air quality in Jefferson County during the summer ozone season" and concluded that the EPA should perform further study on mobile source emissions prior to designating the Louisville area.
 - The commenter contended that the 2010-2015 population growth in Bullitt, Oldham, Shelby and Clark documented in the EPA TSD does not "favor" designating these counties with "small population growth" as nonattainment.
 - FACTOR 3 – The commenter recommended that the EPA further examine the meteorological data. The commenter contended that Jefferson County is likely contributing to the air quality in Oldham County, that Oldham County is downwind from Jefferson County, that "the typical wind direction for the majority of the time in the Louisville area comes from the south/southwest." The commenter pointed to a March 2009 boundary recommendation from the Kentucky Energy and Environmental Cabinet for the 2008 ozone NAAQS designation process and 2006-2008 HYSPLIT modeling as evidence.
 - FACTOR 4 – The commenter agreed with the EPA that there are no physical features impacting air pollution transport in the region.
 - FACTOR 5 - The commenter stated that the EPA has the flexibility to exclude Oldham County from the nonattainment boundary because the EPA has excluded Oldham County from the Louisville ozone nonattainment boundary in the past for the 1979 ozone NAAQS, and designated the entire Louisville area attainment for the 2008 ozone NAAQS.
 - The commenter stated that costs of NOx controls on minor sources must be considered in addition to the five Factor analysis. The commenter provided cost information for installation of NOx controls on combustion turbines and states that it is "nonsensical" to expend these costs when considering weight of evidence that Jefferson County's ozone air quality concerns do not come from Oldham County point sources.

EPA Response: We agree that the Oldham County monitor is attaining and the Jefferson County monitor is violating the 2015 Ozone NAAQS for the 2014-2016 time period. The EPA must designate as nonattainment not only those areas violating the NAAQS, but also those areas contributing to a nearby violation of the NAAQS. In our TSD, we have considered all of the technical information available to the EPA and the EPA's TSD provides our full analysis supporting the inclusion of Oldham County as part of the designated nonattainment area.³⁸

The EPA agrees with the commenter that mobile source emissions are a large contributor to air quality in Oldham County, Kentucky and in the Louisville Area. The commenter suggests that because mobile source emissions are a large component of the emissions profile for the area, "EPA should not impose restrictions on stationary sources." We note that in considering whether a county is contributing to a violation in a nearby area, the EPA evaluates all emissions and emissions related data from the National Emissions Inventory including emissions from on-road mobile sources, point sources, non-point (i.e.,

³⁸ The Commonwealth of Kentucky did not provide ozone designation recommendations for the Louisville KY-IN area.

area) sources, non-road mobile sources, and fires. If, full consideration of all five factors supports inclusion of a county as a contributing county, then the EPA includes the county as part of the designated nonattainment area. Contrary to the suggestion of the commenter, the EPA does directly impose controls on stationary sources based on their inclusion in a nonattainment area. States have primary responsibility to determine appropriate emissions controls during the NAAQS implementation process. We further note that the EPA does not consider regulatory controls that may apply to an area in determining whether that area is either violating the NAAQS or is a nearby area contributing to a violation of the NAAQS. The EPA disagrees that further studies on mobile source emissions must be performed prior to designating the Louisville area; the EPA is required to designate areas within two years of promulgation of a new or revised NAAQS with a possible one-year extension where there is insufficient information to promulgate the designation. The commenter has not supported that current information is insufficient to promulgate a designation for the area.

The EPA agrees that a large number of commuters come from Jefferson County. However, as stated in the EPA's TSD, the EPA has determined that commuting patterns from Oldham and Bullitt Counties, taken with other factors, such as population growth and population density in conjunction with meteorology, indicate emissions from Oldham and Bullitt Counties contribute to air quality at the Jefferson County violating monitor. The commenter has not provided compelling evidence that under a five-factor analysis, emissions in these counties do not contribute to air quality at the violating monitor.

In their comment, the commenter states that Jefferson County sources are likely contributing to air quality in Oldham County and references meteorology analyses from the designations for the 2008 Ozone NAAQS to support this claim. The EPA agrees that the 2006-2008 meteorology analyses referenced by EKPC show that air quality in Oldham County was likely impacted by sources in Jefferson County during the 2006-2008 timeframe. However, this information is not relevant for the EPA's current assessment of the potential for emissions sources in Oldham County to contribute to violations measured in Jefferson County during the 2014-2016 timeframe. Since the monitor in Oldham County is not currently violating the 2015 Ozone NAAQS, the EPA has not assessed the potential for sources in Jefferson County to contribute to air quality in Oldham County for this designation action. Meteorology can vary from year to year. The EPA has evaluated the designation for the 2015 ozone NAAQS on the most recent HYSPLIT data rather than data from 10 years ago that was relevant for designations for the previous ozone NAAQS.

The EPA also notes that we did not receive additional information from Kentucky in response to our intended designations released on December 20, 2017. The comments from EKPC refer to meteorology information collected by the Commonwealth of Kentucky which appears to contradict the EPA's conclusion about Oldham County contributing violations in Jefferson County. Neither EKPC nor the Commonwealth have provided any additional meteorology information for the 2014-2016 timeframe.

We note that while we do consider the nonattainment boundaries of an area that was designated nonattainment for the 1979 1-hour ozone NAAQS, 1997 8-hour ozone NAAQS or, in this instance, attainment area for the 2008 ozone NAAQS, we consider the jurisdictional primarily in determining how to draw the boundary of the area once we determine the areas that are violating the 2015 ozone standard and the nearby areas that are contributing to air quality at the violating monitors. The fact that a particular area was included or excluded from the nonattainment area for a previous ozone NAAQS is not controlling for purposes of determining a violation or contribution for a different NAAQS. As a point of clarification and correction, the EPA notes that portions of Oldham and Bullitt Counties were included in the nonattainment area for Louisville for the 1979 1-hour ozone NAAQS, and the entire counties of Oldham and Bullitt were included in the nonattainment boundary for the 1997 8-hour ozone NAAQS.

Finally, we note that the designation provision in section 107(d) of the CAA does not provide for consideration of regulatory burden or compliance costs in determining whether an area is violating the NAAQS or contributing to a nearby violation of the NAAQS.

Comment: Several commenters supported the EPA's intended boundary for Louisville, KY-IN area. One commenter also supported lowering the ozone standard to at or below 60 ppb.

EPA Response: The EPA recognizes the commenter's views. Revision of the ozone standard is beyond the scope of this action.

3.2.11.5. Chicago, IL-IN-WI

Comment: Several commenters expressed support for EPA's intended boundary for the Chicago, IL-IN-WI area.

EPA Response: The EPA appreciates the commenters' views. Based upon further analysis, EPA is modifying the boundaries for the area as described in the final TSD.

Comment: The State of Indiana and other commenters contended that Lake and Porter Counties in Indiana should be designated as attainment/unclassifiable for the 2015 ozone NAAQS. One commenter noted that these counties have not recorded a violation of the NAAQS. This commenter further contended that these counties should not be designated nonattainment on the basis of any contribution to violating monitors within the Chicago area. Another commenter endorsed the comment from the previous commenter.

EPA Response: The EPA agrees with the commenters that there are no monitors in Lake or Porter County that show a violation of the 2015 ozone NAAQS. However, areas must be designated nonattainment not only if they are violating the 2015 ozone NAAQS, but also if they contribute air quality at a monitor in a nearby area that is violating the 2015 NAAQS. As provided in the final TSD, the EPA is designating Porter County and a portion of Lake County in Indiana as attainment/unclassifiable for the 2015 ozone NAAQS. The EPA is designating the remaining portion of Lake County in Indiana as nonattainment for the 2015 ozone NAAQS.

Comment: The mayor of the City of Kenosha requested that a smaller portion of Kenosha County, WI be designated as nonattainment, and recommends that Hwy. 31 (Green Bay Road) rather than I-94 be used as the boundary for the portion of Kenosha County included in the Chicago nonattainment area.

EPA Response: The EPA disagrees with the suggestion that Hwy 31 be used as the boundary for the portion of Kenosha County included in the Chicago nonattainment area; this boundary would capture only one of the two violating monitors in Kenosha County, WI. As provided in the final TSD, however, EPA is modifying the boundary from what was provided in the 120-day letter to the State; EPA is designating the area inclusive and east of 88th Ave as nonattainment for the 2015 ozone NAAQS. The EPA is designating the area west of 88th Ave as attainment/unclassifiable.

3.2.11.6 Cincinnati, OH-KY-IN

Comment: The commenters expressed support for the counties and partial counties included in the EPA's intended nonattainment designation for the Cincinnati area. Some commenters particularly expressed support of EPA's intended nonattainment designation for Lawrenceburg Township in Dearborn County, Indiana as part of the Cincinnati area. One commenter also contended that the EPA should

extend the nonattainment area further into Dearborn County to include sources in Aurora, Indiana, citing a high density of HYSPLIT back trajectories for a Hamilton County monitor as showing potential impacts on exceedance days.

EPA Response: In response to the EPA’s intended designations, The Indiana Department of Environmental Management (IDEM) provided a summary of photochemical modeling³⁹ analyzing ozone precursor emissions from Dearborn County. For this analysis, IDEM performed several photochemical modeling simulations using with the Comprehensive Air Quality Model with Extensions (CAMx)⁴⁰ version 6.3 for the period of June 15 – August 4 using EPA’s 2011 modeling platform with 2023el emissions⁴¹. The CAMx simulations included one case which used emissions from EPA’s 2023el emissions platform and several cases where a portion of 2023 emissions in Dearborn County were removed (“zeroed-out”). IDEM then compared the model-predicted ozone concentrations from each zero-out scenario back to model-predicted ozone concentrations from the base 2023el scenario with unperturbed 2023 emissions. In one scenario, IDEM zeroed-out point source VOC emissions in Dearborn County; in a second scenario IDEM zeroed out both VOC and NOx point source emissions in Dearborn County. The model showed changes to maximum daily 8-hour average ozone concentrations in the Cincinnati area of up to 0.1 ppb when both NOx and VOC point source emissions were zeroed out and of up to 0.001 ppb for when only VOC point source emissions were zeroed out. These impacts are minor.

Ideally IDEM would have modeled 2011 or a recent year rather than a projected 2023 emissions case since designations are based on an assessment of current conditions rather than future conditions. In addition, due to an expansion at the largest VOC point source in Dearborn County which was not accounted for in the 2023 emissions projection, the 2023 VOC emissions attributed to that source were substantially underestimated. Further, it would have presented a more complete case if Indiana had zeroed-out all anthropogenic emissions in Dearborn County rather than just point sources. Nevertheless, given the very small impacts on ozone predicted by the zero-out simulations, modifications to the simulation reflecting these changes would likely have no more than a negligible impact on the minor impacts demonstrated by the modeling submitted by the state. In addition, the negligible impact from VOC reductions alone suggests that the Cincinnati area is NOx-limited and that underestimates of 2023 Dearborn County VOC emissions are unlikely to impact model-predicted ozone levels in the Cincinnati area. Therefore, the EPA is not including Dearborn County, Indiana in the Cincinnati, OH-KY nonattainment area. The EPA is designating Butler, Clermont, Hamilton and Warren Counties in Ohio and the parts of Boone, Campbell and Kenton Counties in Kentucky identified in Kentucky’s recommendation as the Cleveland nonattainment area for the 2015 ozone NAAQS.

3.2.11.7 *Cincinnati, OH-KY-IN and Louisville, KY-IN*

Comment: Several commenters expressed support for EPA’s intended boundary for the Louisville, KY-IN and Cincinnati, OH-KY areas, but also contend that EPA should designate Jefferson County in Indiana as nonattainment for the 2015 ozone NAAQS. These commenters expressed concern about the accumulation of pollution in the Ohio River Valley from large coal-burning power plants and other sources that contribute to ozone formation, especially the Clifty Creek power plant in Jefferson County,

³⁹ See February 16, 2018 letter from Bruno L.Pigott, Commissioner, Indiana Department of Environmental Management to Cathy Stepp, Regional Administrator, USEPA Region 5 (docket document ID number EPA-HQ-OAR-2017-0548-0292).

⁴⁰ Model documentation and download available at <http://www.camx.com/>

⁴¹ These emissions are documented as part of EPA’s 2011 Version 6.3 Air Emissions Modeling Platform available at <https://www.epa.gov/air-emissions-modeling/2011-version-63-platform>

IN. The commenters state that Jefferson County, IN contributes to nonattainment in both Louisville and Cincinnati.

EPA Response: Section 107(d)(1) of the Clean Air Act directs EPA to designate an area as “nonattainment” if it is violating the NAAQS or if it is contributing to a violation of the NAAQS in a nearby area. As described in EPA’s February 25, 2016 designation guidance for the 2015 ozone NAAQS (ozone designation guidance), after identifying each monitor indicating a violation of the ozone NAAQS, EPA analyzed those nearby areas with emissions potentially contributing to the violating area. The ozone designation guidance provided that using the Core Based Statistical Area (CBSA) or Combined Statistical Area (CSA) as a starting point for the contribution analysis is a reasonable approach to ensure that the nearby areas most likely to contribute to a violating area are evaluated. Jefferson County, Indiana is not part of nor adjacent to the Cincinnati-Wilmington-Maysville, OH-KY-IN CSA, which was the area of analysis for the Cincinnati area. Rather, Jefferson County, IN is part of the Louisville/Jefferson County-Elizabethtown-Madison, KY-IN CSA. Therefore, EPA considered Jefferson County for its potential to contribute to the violation of the standard in the Louisville area. The EPA’s ozone designation guidance identifies a five-factor analysis which is used to determine the areas that should be included as part of a designated nonattainment area for the 2015 ozone NAAQS. These factors are: air quality data, emissions and emissions-related data, meteorology, geography/topography, and jurisdictional boundaries. Based on consideration of all five factors as described in the TSD for the Louisville area, EPA is not including Jefferson County, IN in the nonattainment area. Jefferson County, IN has low population, low population density, and low population growth, as well as low VMT and low commuter links to counties within the Louisville CSA that are violating the 2015 ozone NAAQS. Significantly, the meteorological data did not suggest that emissions from Jefferson County, IN are transported to the violating monitors on days on which the 2015 ozone NAAQS is exceeded.

3.2.11.7 *St. Louis, MO-IL*

Comment: A commenter urges the EPA to finalize its intended designations for the St. Louis MO-IL nonattainment area that includes Franklin, Jefferson, St. Charles, and St. Louis counties and the City of St. Louis. The commenter disagrees with Missouri Department of Natural Resources’ (MDNR) proposed exclusion of Franklin and Jefferson counties as nonattainment. The commenter also believes it would be irrational for MDNR to rely upon 2015-2017 monitoring data while also using 2014 NEI data.

EPA Response: The EPA’s final designation for the St. Louis MO-IL nonattainment area is based on the latest available monitoring data, which is now 2015-2017 data early-certified by both Missouri and Illinois. EPA’s new analysis of this information is included in the final TSD. In that analysis EPA concludes that Jefferson is not included in the nonattainment area, and a portion of Franklin County (Boles Township) is included in the nonattainment area.

The 2017 NEI is not yet available and the 2014v1 NEI is the most recent emissions data compiled by the EPA. Thus, there is not a requirement for the state to use an inventory that is not yet available.

3.3 Comments Not Requiring a Response from EPA

3.3.1 NAAQS Related

Comment: Some commenters congratulated EPA for setting high air quality standards. One commenter noted that poor air quality leads to breathing problems, higher medical costs and also has a negative effect attracting people, businesses and tourism.

EPA Response: The EPA appreciates the commenters' views and agrees that poor air quality is a public health concern. The impact of air quality on medical costs or local economy is beyond the scope of this action.

Comment: Some Commenters submitted comments in support of revisiting or delaying the 2015 NAAQS.

EPA Response: The EPA appreciates the comments. Revising or delaying the 2015 ozone NAAQS is outside the scope of this action.

Comment: One commenter supported protective NAAQS and specifically mentions the Louisville, Kentucky area.

EPA Response: The EPA appreciates the commenter's views and agrees standards protective of public health are important.

Comment: One commenter supported proposal to designate Louisville nonattainment for 2015 ozone NAAQS. The commenter also supports lowering ozone standard to at or below 60 ppb.

EPA Response: The EPA appreciates the commenter's views. Revision of the ozone standard is beyond the scope of this action.

Comment: Several commenters stated that ground-level ozone poses a serious threat to public health and environment and that ozone precursors should be reduced to improve regional air quality for the benefit of community health and the environment.

EPA Response: The EPA appreciates the comments and agrees that high levels of ground-level ozone can pose a threat to public health and the environment. On October 1, 2015, the EPA Administrator signed a notice of final rulemaking that revised the primary and secondary ozone NAAQS (80 FR 65292; October 26, 2015). The EPA lowered the revised primary and secondary ozone NAAQS from .075 parts per million (ppm) to 0.070 ppm. Designating nonattainment areas is an important step toward identifying areas where additional reductions in ozone precursor emissions can improve air quality.

Comment: Several commenters supported revoking the 2008 NAAQS.

EPA Response: Revoking the 2008 ozone NAAQS is beyond the scope of this action.

3.3.2 Comments on Unrelated Programs

Comment: The EPA received several comments addressing the listing of endangered species or other aspects of the NEPA program.

EPA Response: These comments do not address the ozone designations which are the subject of this action. They are beyond the scope of the action and do not require a response.

Comment: The EPA received a comment addressing the Regulatory Flexibility Act.

EPA Response: This comment does not address ozone designations and does not require a response.