WESTERN STATES AIR RESOURCES COUNCIL

WESTAR

March 16, 2015

U.S. Environmental Protection Agency
EPA Docket Center (EPA/DC)
Mail Code: 28221T
1200 Pennsylvania Avenue N.W.
Washington, D.C. 20460

Attn: Docket ID No. OAR-HQ-OAR-2008-0699

Dear Sir or Madam:

The Western States Air Resources (WESTAR) Council, an association of 15 western state air quality managers, appreciates the opportunity to comment on the proposed National Ambient Air Quality Standard (NAAQS) for ozone. WESTAR recognizes EPA's statutory responsibility to research and propose revisions to the primary and secondary ozone NAAQS to provide requisite protection of public health, with an adequate margin of safety, and public welfare. Some individual WESTAR member states will provide their comments on the level and form of the standard separately. Our comments focus on implementation issues that are of particular concern to WESTAR members: background and transported ozone; rural area nonattainment; the available policies for addressing nonattainment issues, including exceptional events, rural transport areas, and international transport; implementation of the proposed secondary standard; and procedures to avoid double-counting of ozone episodes.

Whatever level EPA chooses for the ozone standard, implementation in the west will require a much better understanding of the role of background and transported ozone, and we request that EPA provide the resources needed to advance our knowledge in these areas. In addition, we call on EPA to improve upon the tools states may use to address areas that violate the standard due to sources over which they have little or no control.

Background levels of ozone in remote locations, including many intermountain national parks, are consistently above the NAAQS proposed by EPA. In many of these areas, very little

ED_002666_00016588-00001

of the ozone can be attributed to emissions from the areas with the violating monitor(s). This situation exists because ozone nonattainment planning policies and strategies have historically been focused on solving urban ozone exceedances.

Ozone exceedances in areas like these remote western national parks originate from a mix of anthropogenic and non-anthropogenic sources. That source mix, transport of pollutants over the complex terrain common in western states, and the role of natural events such as wildfires and stratospheric intrusions are just a few examples of scientific issues that are not well understood. We agree with the Clean Air Scientific Advisory Committee (CASAC) in its recommendation "that EPA facilitate research to better characterize background levels." We call on EPA to work with western states to develop an applied research strategy in addition to workable ozone nonattainment implementation approaches.

Making the right choices about how to improve air quality in ozone nonattainment areas will depend on how well we understand the science, and our understanding of the science needs to improve. Given the absence of industrial development in numerous areas of the intermountain west, nonattainment area controls simply will not work to achieve attainment. Neither will interstate contribution reductions be sufficient in many areas to reduce ozone to levels below the proposed standard.

In its proposal, EPA suggests that these background contributions can be addressed by existing "regulatory relief" options, including the exceptional events policy. We believe however, that EPA downplays the ongoing significance of background ozone in the west and overstates the capability of the tools available to adequately address the regulatory requirements imposed on states. The tools available to states to account for non-anthropogenic ozone treated as exceptional events are administratively burdensome and fraught with problems of second-guessing, often due to a lack of reliable supporting data. We appreciate that EPA recognizes this and intends to make improvements to the regulatory requirements to make it work better. Nonetheless, a fundamental lack of data on emissions and the challenges of routinely monitoring the atmospheric circumstances causing exceptional events, combined with the fact that exceptional events identified by EPA do not have a solid scientifically-based definition, will continue to plague efforts to account for them. Every hour spent analyzing pollution that cannot be controlled to satisfy EPA's administrative requirements is just that: administrative overhead that does nothing to improve air quality.

Additionally, EPA points to rural transport and international transport provisions of the Clean Air Act as means to effectively address domestic anthropogenic ozone within a jurisdiction's authority. In fact, these options will do little to address many of the nonattainment issues western states will face under a more stringent ozone standard. We discuss our concerns about these implementation options in more detail in the attachment.

In 2007, WESTAR commented that EPA needed to provide funding to help states understand ozone background and transport in the west. At that time, we noted that EPA had

ED_002666_00016588-00002

provided substantial funding to support ozone analysis in the eastern U.S., and with that extraordinary support, was able to help the eastern states develop the ability to understand the origin of ozone precursors, ozone formation and the fate of ozone with a level of confidence to develop and implement meaningful and effective regulatory programs to improve air quality. Once again, we urge EPA to make a similar commitment to the west. Without such assistance, western states will continue to have limited tools to accomplish what the Clean Air Act was intended to do: improve air quality.

Sincerely,

Eric Massey, President
Western States Air Resources Council

ED_002666_00016588-00003

WESTAR Comments on the Proposed Revision to the National Ambient Air Quality Standards for Ozone, Docket No. OAR-HQ-OAR-2008-0699

COMMENT 1: Background and transport in the west is not well understood

There are significant uncertainties about the origin, magnitude, frequency, duration, and geographic distribution of ozone in the west. Transported background ozone or the precursor pollutants that cause ozone may originate in another state, in Mexico, Canada, or Asia. It may be transported down from the stratosphere. It may be the product of wildfires. Characterizing multiple 'natural' events (wildfires, stratospheric intrusions), occurring with varying intensities, and sometimes overlapping over space and time will require resources beyond the states' limited means. Implementing a more stringent ozone standard in the west will require a much better understanding of the role of background and transported ozone, and we call on EPA to provide the resources we will need to advance our knowledge in these areas.

If EPA adopts a standard in the proposed range of 65 to 70 parts per billion, it is inevitable that new non-attainment areas will be designated in the west. Some of these areas will also inevitably be designated predominantly as a result of ozone transported from outside the non-attainment area boundaries. In a recent assessment[1] of ozone monitoring data, it was estimated that background ozone concentrations - non-anthropogenic background and transported anthropogenic ozone combined - ranged from 47 ppb to 68 ppb at six western cities during ozone episodes.

There are also indications that these background and transported levels are increasing. **Figure 1** is an example of increasing ozone levels in two western national parks. Several researchers have suggested that these increases may be due to increases in ozone transported from Asia.[2,3] A contributing factor may also be increases in wildfire across the west and emissions growth in Mexico and Canada.

---

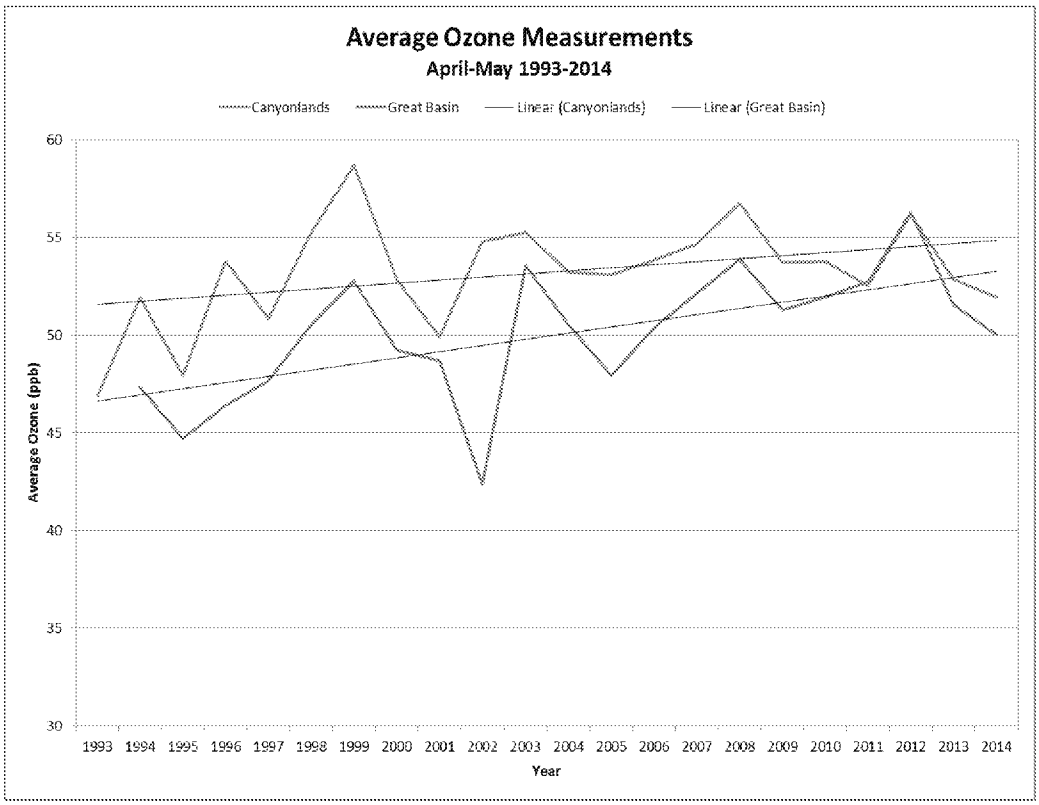
[1]Regional and Local Contributions to Peak Local Ozone Concentrations in Six Western Cities. Sonoma Technologies, May, 2006.

[2] Cooper, OR; Parrish, DD; Stohl, A; Trainer, M; Nedelec, P; Thouret, V; Cammas, JP; Oltmans, SJ; Johnson, BJ; Tarasick, D; Leblanc, T; Mcdermid, IS; Jaffe, D; Gao, R; Stith, J; Ryerson, T; Aikin, K; Campos, T; Weinheimer, A; Avery, MA. (2010). Increasing springtime ozone mixing ratios in the free troposphere over western North America. Nature 463: 344-348.

[3] Lin, M., et al. (2012) ,Transport of Asian ozone pollution into surface air over the western Unites States in spring, J. Geophys. Res., 117, doi:10.1029/2011JD016961.

ED_002666_00016588-00004

Figure 1: Monitored ozone trends at Canyonlands and Great Basin National Parks (Hourly average of all values for April and May)



EPA identified the highest background levels at high-elevation sites in the western U.S.[4] In its analysis of non-anthropogenic background concentrations, EPA notes that "the highest background episodic concentrations are typically associated with stratospheric intrusions or wildfires."[5] With regard to stratospheric intrusions, EPA says: "It should be noted that there is considerable uncertainty in the magnitude and distribution of this potentially important source of tropospheric O_3."[6] And, with regard to ozone from wildfires "estimating contributions from wildfires is subject to considerable uncertainty."[7]

Background and transported ozone is of particular concern in many western states, including the states of Idaho, Wyoming, South Dakota, Nevada, Utah, Colorado, Arizona and New Mexico. In these states, 'seasonal mean' background ozone was reported by EPA to be

[4] Integrated Science Assessment (US EPA 2013, Section 3.4)
[5] Ibid, Appendix 2A, 2A-14.
[6] Integrated Science Assessment at 3-34.
[7] Ibid, 3-35.

ED_002666_00016588-00005

between 30 and 35 ppb.[8] These values represent 'natural background' absent anthropogenic ozone; in other words, these values do not include ozone generated by human activity in the United States or outside its borders.

However, there is a significant difference when considering ozone on the basis of a 'seasonal mean' as compared to considering ozone on the basis of actual exceedances of the standard, which EPA acknowledges is more relevant from a regulatory standpoint. These differences can be dramatic, as demonstrated by Zhang, et al. (see **Figure 2**).[9]

Figure 2: Excerpt from Zhang demonstrating differences comparing seasonal averages to peak ozone values.

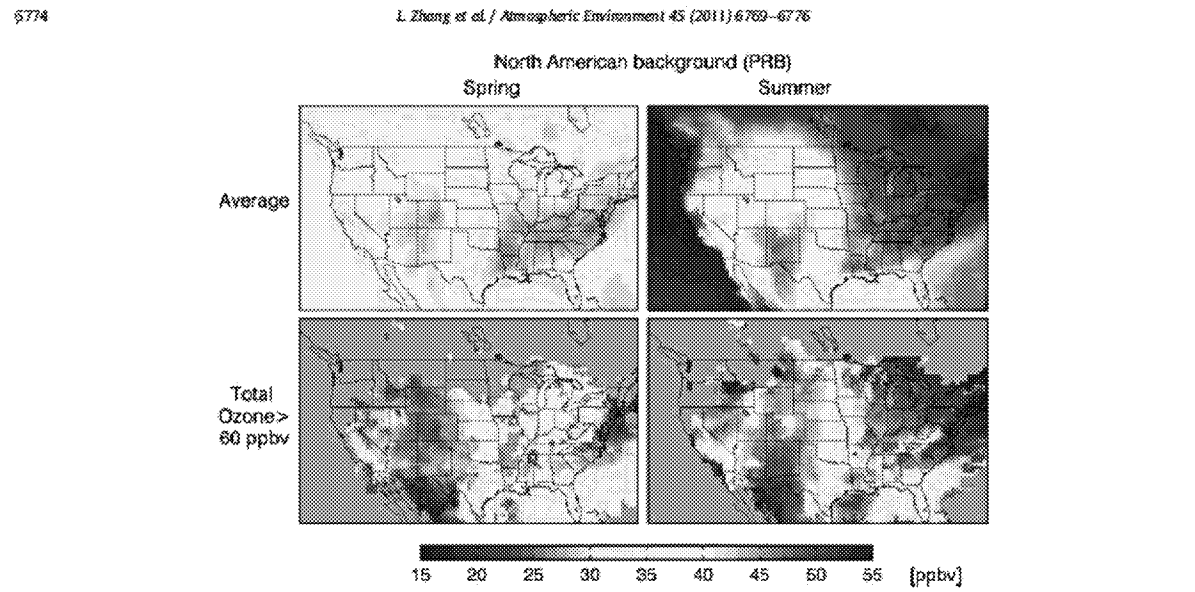


Fig. 6. North American background (PRB) ozone concentration in surface air for spring and summer 2006. The top panels show seasonal means while the bottom panels show the means for days with total ozone > 60 ppbv. Gray areas in the bottom panels had no days with total ozone >60 ppbv.

[8] Figure 2-6 Map of 2007 CMAQ-estimated Seasonal Mean of 8-hour Daily Maximum Ozone from Natural Background (ppb) based on Zero-Out Modeling. Regulatory Impact Analysis. Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards (USEPA 2014c).

[9] Zhang, L; Jacob, DJ; Downey, NV; Wood, DA; Blewitt, D; Carouge, CC; Van Donkelaar, A; Jones, DBA; Murray, LT; Wang, Y. (2011). Improved estimate of the policy-relevant background ozone in the United States using the GEOS-Chem global model with 1/2° × 2/3° horizontal resolution over North America. Atmos Environ 45: 6769-6776. http://dx.doi.org/10.1016/j.atmosenv.2011.07.054.

ED_002666_00016588-00006

Table 1 provides another example from recent EPA modeling[10] of the importance of considering ozone exceedances in the form of design values instead of seasonal averages. The table includes both anthropogenic ozone from outside the U.S. and 'natural background'. It shows that sources outside the control of state regulatory authorities cause more than three quarters of the ozone at some sites that would violate the low range of the proposed standard.

Table 1: Modeled percent background and non-US ozone (ppb) at western sites with average design values above 65 ppb and total background values above 75 percent.

		Design Values						
State	**County**	**2018 Average (ppb)**	**2018 Max (ppb)**	**Other (ppb)**	**Biogenic (ppb)**	**Boundary Conditions (ppb)**	**Total Background (ppb)**	**Background % of Avg Design Value**
Nevada	Clark	70.0	70.7	2.0	2.3	52.8	57.1	82%
New Mexico	Dona Ana	69.3	70.3	16.6	4.9	34.8	56.3	81%
Arizona	Cochise	69.2	70.1	4.2	2.9	56.4	63.5	92%
Nevada	Clark	68.7	68.7	1.8	2.6	51.3	55.7	81%
Nevada	White Pine	68.6	70.5	4.9	2.2	52.6	59.7	87%
Arizona	Coconino	68.4	69.4	2.5	2.2	53.0	57.8	84%
New Mexico	Dona Ana	68.3	72.9	18.8	4.6	34.2	57.6	84%
Utah	Washington	68.1	69.3	2.5	3.1	48.5	54.0	79%
Arizona	La Paz	67.6	68.3	1.7	2.8	48.2	52.7	78%
New Mexico	Bernalillo	66.7	68.5	2.7	2.6	49.5	54.8	82%
Utah	Utah	66.4	69.3	1.1	2.3	50.5	53.8	81%
Utah	Carbon	66.2	66.2	0.8	1.9	50.5	53.2	80%
Utah	Utah	65.9	66.6	1.1	2.5	48.8	52.4	80%
New Mexico	Bernalillo	65.8	66.7	5.4	3.9	41.1	50.4	77%
Utah	San Juan	65.7	66.0	1.1	2.2	52.3	55.6	85%
Arizona	Coconino	65.1	65.8	1.6	1.7	54.8	58.1	89%
Utah	Duchesne	65.1	65.1	0.8	1.6	52.9	55.3	85%
New Mexico	Dona Ana	65.1	66.4	15.6	4.6	32.7	52.9	81%

Source: Air Quality Modeling Technical Support Document for the 2008 Ozone NAAQS Transport Assessment, Office of Air Quality Planning and Standards, U.S. EPA, January 2015

Given the remoteness of some western sites and the absence of local sources of anthropogenic ozone and precursors, it is largely unknown what portion of ozone measured at these sites is from anthropogenic emissions either domestically, from Asia, Mexico, or Canada, from biogenic emissions, wildfire, or stratospheric intrusions. While estimates have been made

[10] Air Quality Modeling Technical Support Document for the 2008 Ozone NAAQS Transport Assessment, Office of Air Quality Planning and Standards, U.S. EPA, January, 2015.

ED_002666_00016588-00007

to apportion the sources of ozone in the west, there is a significant degree of uncertainty in these estimates. It is critical that EPA recognize that unique approaches to developing successful control strategies will be required in the west.

In summary, based on the seasonal and episodic nature of background and transported ozone in the west and the importance of long-range transport in producing ozone levels in the range of the proposed standard, our understanding of the origin, magnitude, frequency, duration, and geographic distribution of ozone in the west needs to improve for states to determine whether an area is in or out of attainment based on controllable anthropogenic sources and to assess the effectiveness of control strategies with confidence.

COMMENT 2: Nonattainment in rural areas will pose significant challenges.

EPA's assumptions in its Regulatory Impact Analysis (RIA) about workload for state and local air programs are not realistic for many western states. While some western states have been addressing state-wide ozone levels for many years, other states will be facing new issues as they determine how to reduce ozone levels both inside and outside of their major population centers. It will require a tremendous effort to improve the technical information (inventories, models, etc.), educate local governments, including rural communities about new requirements, and develop control strategies. In addition, it will require a significant effort to determine what emission sources are affecting regional background ozone levels and the degree to which interstate and international transport and background are contributing to the problem. The eastern U.S. has been evaluating these issues for many years through the Ozone Transport Commission (OTC), the Ozone Transport Assessment Group (OTAG), and other regional analysis efforts. EPA needs to undertake similar efforts for understanding ozone in the west.

Many of these rural areas within the west that will be grappling with nonattainment for the first time have very few, if any, major sources and have very limited capability to address the requirements that are triggered by a nonattainment designation, including general conformity, transportation conformity, and control strategy development. Limited resources and the lack of local emissions, resulting in limited offsets for these areas, will impede many rural communities from effectively managing air quality and successfully attaining the ozone standard through their own means. The western region of the U.S. also has extensive federal lands in close proximity to many of these rural areas, thus making general conformity an onerous task for not only rural communities, but also for state air programs and federal land managers. General conformity is a new hurdle for many western rural areas that may never have dealt with this issue on the federal, state or local levels. EPA needs to be mindful of the limitations that currently exist and the resources that will be needed in developing these sorts of initiatives for the western states.

ED_002666_00016588-00008

While WESTAR would welcome updates to the approach used by EPA to designate Rural Transport Areas to more appropriately address rural communities in the west, rural transport areas will still need to meet requirements for marginal ozone areas, including a baseline emissions inventory, source emission statements, nonattainment new source review (NSR), and transportation and general conformity. As we discuss in Comment 3, this does not provide regulatory relief for many rural areas that are slightly above the standard due to pollution transported from outside the area. These requirements apply over a 20 year time period for rural areas with few or no emissions sources and lightly populated areas. This may foreclose any new economic development opportunities for these areas which may already be struggling. A rural transport designation would still impose a significant workload and resource constraint on these areas.

COMMENT 3: Improved tools are needed to address violations caused by uncontrollable sources

The successful implementation of any ozone standard will require EPA to develop a better understanding of the unique constraints that affect the western U.S from attaining or maintaining the ozone NAAQS. These constraints include natural background, transported ozone within rural areas, and international transport. It is essential that EPA take the initiative to fully research and address these constraints. Inaction by EPA will result in failure for many areas within the western U.S to attain or maintain the ozone NAAQS. The current EPA tools available to the western states to address natural background, transported ozone within rural areas, and international background do not and cannot effectively address these constraints and, in most cases, require states to spend additional resources on efforts that provide little to no improvement in air quality or assist in attainment of the ozone NAAQS. In actuality, these tools either saddle areas with the burden of a nonattainment designation for emissions that are outside of their control or force states to develop costly demonstrations for exceptional events that are not exceptional in nature or occurrence.

WESTAR understands that EPA is limited by the Clean Air Act as to how violations of the NAAQS standards can be addressed, but the following summaries outline the limitations of the current tools available to states to address uncontrollable violations of the NAAQS and how these tools fail to address the constraints currently facing the western region of the U.S. WESTAR urges EPA to develop and implement policies, strategies and planning tools that provide the western states with the means to address nonattainment violations of the ozone standard in ways that account for and address these constraints.

ED_002666_00016588-00009

A. Exceptional Events

1. *Resources.*

Under section 319 of the Clean Air Act, the highest priority of implementing the Exceptional Events Rule is to protect public health, regardless of the source of air pollution. Although WESTAR supports this guiding principal, past experience shows that a large portion of state and local air quality management agencies' resources have been consumed by investigating, analyzing and preparing demonstrations for suspected exceptional events. Due to the intense amount of work required to prepare these demonstrations, few resources are left to focus on providing public health protections. Furthermore, Congress adopted revisions to section 319 to avoid nonattainment designations or continued nonattainment where the associated regulatory and planning requirements are not appropriate due to data affected by exceptional events.

In its proposal, EPA states that "as the levels of alternative prospective standards are lowered, background will represent increasingly larger fractions of total O_3 levels" largely affecting rural locations in the west (79 FR 75383). Consequently, the use of exceptional event demonstrations to exclude data affected by wildfire and stratospheric ozone intrusion will increase. Indeed, a study conducted in the late spring and early summer in Clark County, Nevada, at an elevation of approximately 9,000 feet (~2.7 km) reports: "The number of exceedance days in Clark County during the 43-day LVOS field campaign would have increased from 3 to 14 if the NAAQS had been 70 ppb instead of 75 ppb, and from 3 to 25 if the NAAQS had been 65 ppb. In other words, exceedances of the NAAQS generated by high background concentrations and stratospheric intrusions would have occurred on 60% of the days during LVOS, making these events the rule rather than the exception."[11]

In order for states to utilize the provisions of the Exceptional Events Rule in a practical fashion, EPA must streamline the onerous process, provide the tools and guidance required to prepare demonstrations, and respond to demonstrations in a timely fashion.

Modeling of exceptional events will likely play a large role in meeting the rule's technical requirement to demonstrate that there would have been no exceedance or violation but for the event. Many air quality agencies do not have the expertise to run models for exceptional events, nor do they have the staffing levels required to maintain an updated emissions inventory for modeling. Most western states would likely need to hire additional staff or contract the work out, both difficult processes in a time of constrained budgets, tight deadlines and increased workloads.

---

[11] Langford, A.O., et al., An overview of the 2013 Las Vegas Ozone Study (LVOS): Impact of stratospheric intrusion and long-range transport on surface air quality, Atmospheric Environment (2014)

ED_002666_00016588-00010

As evidence that the Exceptional Events Rule offers states regulatory relief, EPA provides two examples of recently approved demonstrations, one for stratospheric ozone intrusion and one for wildfire impacts. This limited number of examples provides states little confidence that their efforts to prepare a demonstration will result in concurrence by EPA. States' previous experience with exceptional event demonstrations have shown that EPA regional office reviews are not consistent with one another, nor are the reviews by the same regional office consistent from year to year. EPA is also suffering from constrained resources and has been slow to act on exceptional event submissions. Timely action is critical because it affects states' area designations and planning process. Therefore, it is imperative that EPA issue a revised Exceptional Events Rule that streamlines the demonstration process with clearly defined requirements and timelines to provide certainty to the planning process. In addition, concurrent guidance should be issued on preparing exceptional events caused by wildfires and stratospheric ozone intrusion.

2. Timelines.

EPA has codified a schedule for the flagging and submission of demonstrations for exceptional events in 40 CFR 50.14. In Section V(E) of the preamble, they state: "Under the generic flagging schedule in 40 CFR 50.14(c)(2)(iii), a state must initially notify the EPA that data have been affected by an event by July 1 of the calendar year following the year in which the event occurred. This is done by flagging the data in AQS and providing an initial event description. According to the generic demonstration schedule in 40 CFR 50.14(c)(3)(i), the state must also, after notice and opportunity for public comment, submit a demonstration to justify any claim within 3 years after the quarter in which the data were collected. This section of the regulation also states that if the EPA must make a regulatory decision based on the data, the state must submit all information to the EPA no later than 1 year before the decision is to be made."

EPA also states that "These generic deadlines in the Exceptional Events Rule apply to data influencing redesignation efforts or other regulatory decisions made by the EPA after the EPA promulgates initial area designations for a new or revised NAAQS. However, these same generic deadlines in the Exceptional Events Rule may not work well with the timing of the initial area designation process and schedule under a new or revised NAAQS" (79 FR 75353).

ED_002666_00016588-00011

To meet the designations schedule, EPA has proposed a schedule table for exceptional event demonstrations:

10/1/2015	New NAAQS promulgated
10/1/2016	Area designation recommendations due to EPA
10/1/2017	Final area designations promulgated by EPA
7/1/2016	Flagging of 2013, 2014 and 2015 data due
10/1/2016	Demonstrations for 2013-15 events due
5/31/2017	Flagging of 2016 data due
5/31/2017	Demonstrations for 2016 events due

While most ozone exceedances occur during the summer months during wildfire seasons, some areas of the west are influenced by stratospheric ozone intrusions, typically occurring in the late winter and spring. With long-term drought conditions, wildfires also occur during non-summer months, influencing ozone levels at those times as well. As a result, and as EPA has noted, the timeline for developing demonstrations for exceptional events for area designations is extremely tight. For 2016 data, the timeframe is as short as 3-4 months for developing a demonstration as there is a 30-day public comment period prior to submittal to EPA. If 2017 data may potentially be considered, as EPA has indicated in the preamble, a further tightened timeframe would be untenable to many agencies when a public comment period is included.

State agencies are doing more with fewer staff these days. Adding the burden of an extremely shortened timeframe for exceptional event demonstrations is not feasible. We encourage EPA to consider revisions to the Exceptional Events Rule and applicable guidance to avoid this situation occurring now and in the future.

Implementation of the proposed ozone NAAQS and associated use of the Exceptional Events Rule will require more resources than most western states currently have. EPA must insure adequate federal funding to provide the human, financial and technical resources to enable states to abide by our regulatory obligations and fulfill our mission to provide healthful air and afford public health protections.

ED_002666_00016588-00012

B. Rural Transport Areas

EPA contends that the CAA provision for treatment as a rural transport area can provide relief to rural areas from the more stringent requirements of higher nonattainment area classifications. However, even if rural areas are able to utilize the RTA relief mechanism, rural transport areas must still meet the requirements for marginal ozone nonattainment areas, including a baseline emissions inventory, source emission statements, nonattainment new source review with offset requirements, and transportation and general conformity (see WESTAR Comment 2). This does not provide regulatory relief for many rural areas that are slightly above the standard due to pollution transported from outside the area.

Nevertheless, WESTAR understands that EPA is limited by the CAA as to how violations of the NAAQS can be addressed, and so we offer the following observations on the limitations of the RTA tool and recommend ways to make it more meaningful.

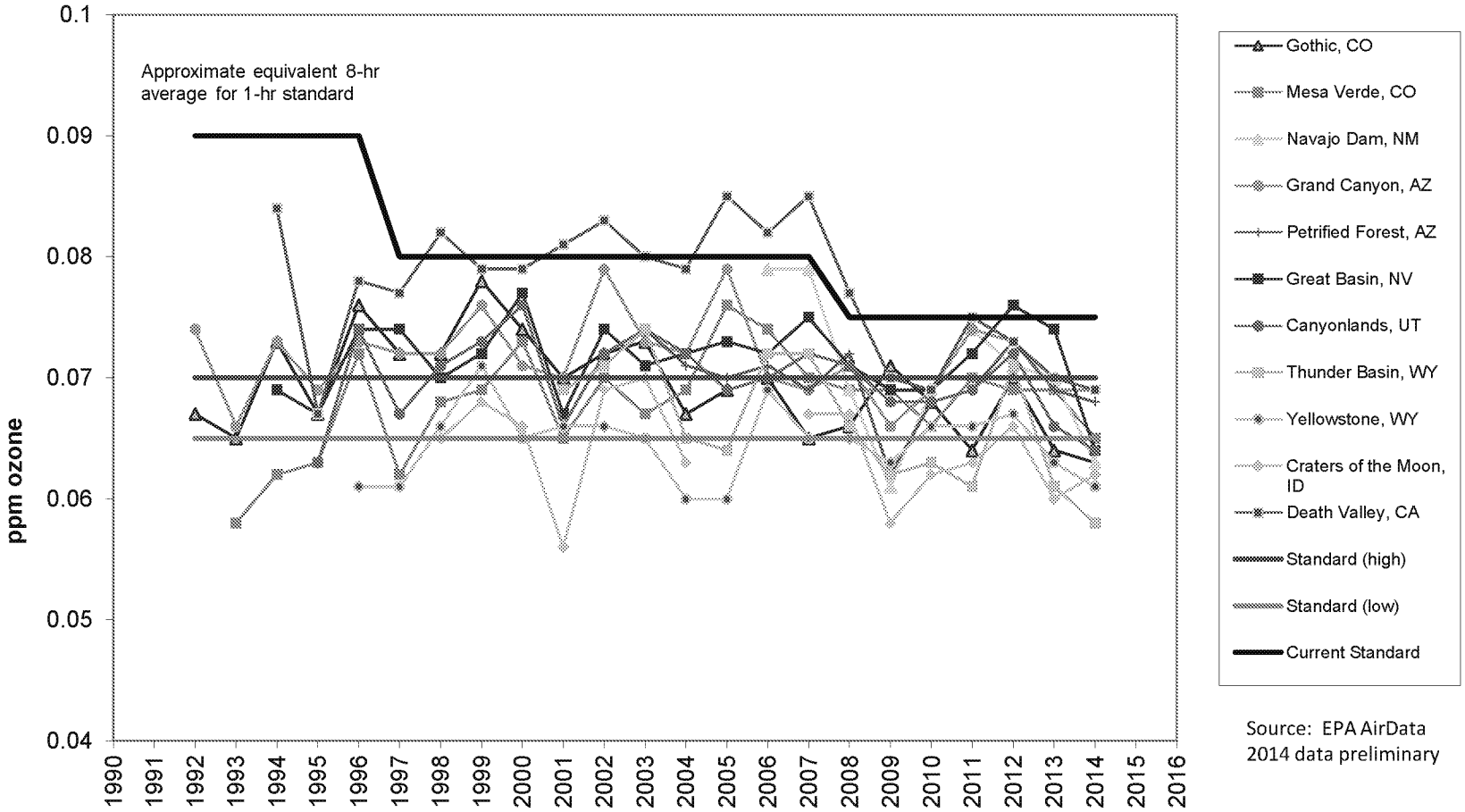
1. *Interpretation of the Clean Air Act (CAA).*

There are numerous national parks in the west with monitors that regularly record concentrations of ozone that exceed the proposed standard range of 60 to 70 parts per billion (ppb), and even exceed the existing standards of 75 ppb. **Figure 3** shows the fourth high daily maximum ozone value at 11 rural monitors in the west from 1990 to 2014. The graph shows that despite significant reductions in ozone precursors from anthropogenic sources since the CAA Amendments of 1990, monitored ozone levels at rural sites in the intermountain west have not been decreasing. Indeed, if the standard were set to 65 ppb, it is possible that all 11 of the national parks/forests/wilderness areas in the figure would become nonattainment.

EPA's own modeling for the proposed rulemaking shows that the largest seasonal average values of background ozone occur in the intermountain west. See Comment 1 on background levels in the west. The notice of proposed rulemaking (NPR) states, ". . . there can be events where O_3 levels approach or exceed the concentration levels being proposed in this notice (i.e., 60-70 ppb) in large part due to background sources. These cases . . . typically result from stratospheric intrusions of O_3, wildfire O_3 plumes, or long-range transport of O_3 from sources outside the U.S." (79 FR at 75382). The NPR goes on to state EPA's view that these events are relatively infrequent. *Id.* EPA states that "the CAA contains provisions that can be used to help deal with certain events, including providing varying degrees of regulatory relief for air agencies and potential regulated entities." *Id.* One such "regulatory relief" tool – treatment as a rural transport area (RTA) – is specifically intended to provide relief to rural areas from the more stringent requirements of higher nonattainment area classifications.

ED_002666_00016588-00013

Figure 3. Fourth High, Daily Maximum Ozone Values at Rural Monitors



Source: EPA AirData
2014 data preliminary

ED_002666_00016588-00014

CAA §182(h) provides that an ozone nonattainment area may be treated as an RTA if local VOC (and NOx, where relevant) emissions do not contribute significantly to ozone in the area or other areas. It further says if an RTA does not include and is not adjacent to a Metropolitan Statistical Area (MSA) or a Consolidated Metropolitan Statistical Area (CMSA), as defined by the U.S. Census Bureau, it will be considered to have fulfilled CAA requirements for marginal areas. The term CMSA was retired by the Census Bureau in 2003 and, accordingly, EPA has elected to interpret the CAA references to both MSA and CMSA to refer the definition of MSA.[12]

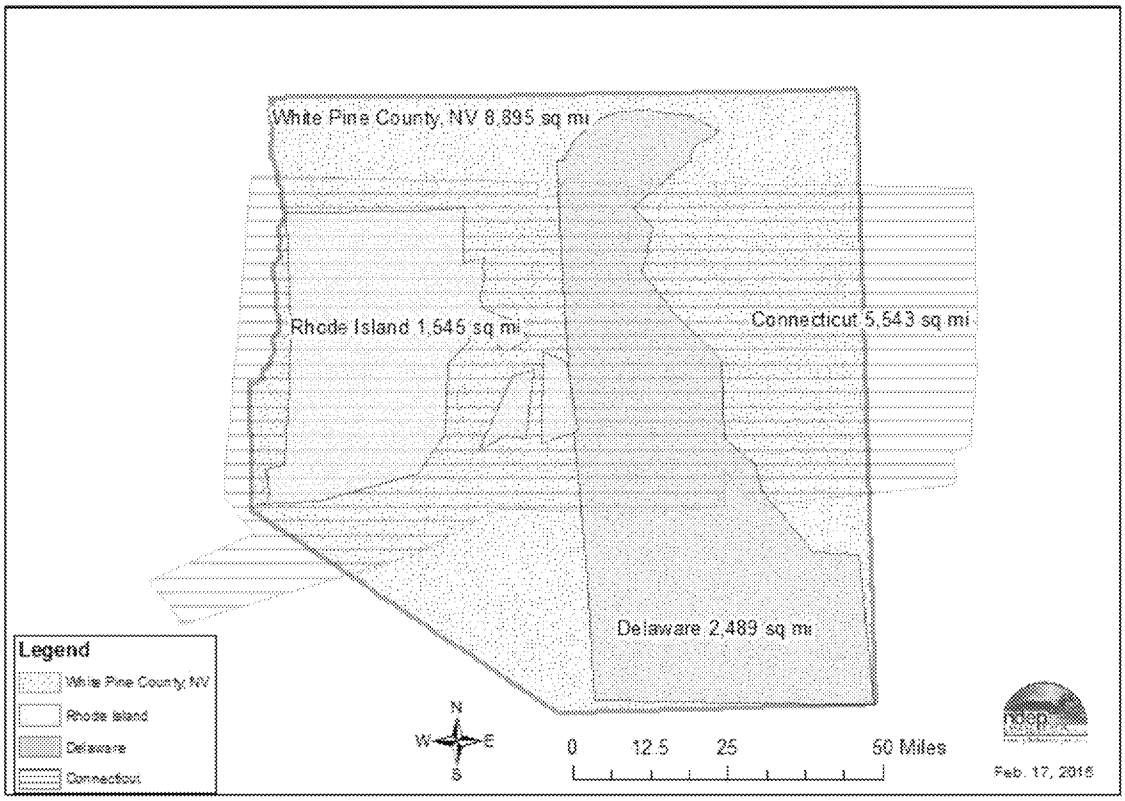
The general concept of an MSA, according to the Census Bureau, is "that of a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core." United States Census Bureau, *About Metropolitan and Micropolitan Statistical Areas* (last revised Feb. 26, 2013) *available at* http://www.census.gov/population/metro/about/. Thus, the intent of the CAA is to provide relief to rural nonattainment areas that have insignificant local sources of ozone or precursors and do not contain and are not adjacent to a substantial population center and its nearby related communities.

Many counties in the west satisfy this intent, but are disqualified because of their large size. For example, White Pine County, Nevada, is almost 9,000 square miles in area, larger than several eastern states: Rhode Island, Delaware, Connecticut and New Jersey. *See* **Figure 4**. White Pine County has a total population of about 10,000 and is not an MSA; but it is adjacent to the Salt Lake City MSA, which encompasses 7,843 square miles (close to the size of New Jersey). The area of the Salt Lake City MSA plus the area of all adjacent counties is 46,023 sq. miles, about the size of the entire state of Pennsylvania. The vast majority of this area is sparsely populated List of US States by Size (last viewed Feb. 2, 2015), *available at* http://state.1keydata.com/states-by-size.php.

[12] February 13, 2015 pre-publication copy of EPA's 2008 SIP implementation rule, "Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements." (http://www.epa.gov/airquality/ozonepollution/actions.html#feb2015i, last viewed 3/4/2015.)

ED_002666_00016588-00015

Figure 4. Relative Size of White Pine County, Nevada, to Rhode Island, Delaware and Connecticut



The Great Basin National Park CASTNET monitor has had a design value greater than 70 ppb since 1997 with the exception of three years, which had values of 69 and 70 ppb. The Park is 174 miles from Salt Lake City, the nearest "core area containing a substantial population nucleus." The next largest population center, Tooele with a population of about 32,000, is 141 miles from the monitor. Similarly, Gunnison County, Colorado, has a population of 15,500 and is 3,260 square miles in area, larger than both Rhode Island and Delaware. EPA's "Gothic" CASTNET ozone monitor is located in Gunnison County and has a current design value of 65 ppb. Gunnison County is adjacent to the Grand Junction MSA which is in Mesa County, with a population of 147,500 and an area of 3,341 square miles. The areas of the Grand Junction MSA plus the area of all adjacent counties is 21,191 sq. miles, close to the size of the entire state of West Virginia. The border between Gunnison and Mesa Counties is only 6 miles in length. The CASTNET monitor is 85 miles from the core of the Grand Junction MSA, with mountains between.

WESTAR recognizes that EPA must abide by the CAA, but we urge EPA to take practical considerations into account in the implementation of the revised NAAQS. If evaluation demonstrates that local VOC and NOx is not significantly contributing to the rural area itself, or

ED_002666_00016588-00016

other population centers, then it clearly meets the CAA intent of an RTA and should be designated as such. WESTAR urges EPA to interpret the CAA according to the intent of the Act; otherwise, use of the RTA provision as a relief mechanism for rural nonattainment areas in the western U.S. will be ineffectual at best.

2. *Need for RTA Guidance.*

The NPR promotes the use of the CAA RTA provision as a regulatory relief mechanism for rural areas. However, historically EPA has recognized very few areas as ozone RTAs; these were for the 1979 ozone NAAQS. Furthermore, EPA has not issued separate written guidance to elaborate on the interpretation of these CAA qualification criteria. 79 FR 75384.

It is vital for the western states that EPA issue guidance with criteria for demonstrating that an area is an RTA and for addressing the issue of the large size of counties, and consequently MSAs, in the west. The NPR indicates that EPA intends to issue boundary area guidance within four months after the final NAAQS is promulgated. RTA guidance should be issued at the same time or earlier.

The NPR points to draft guidance that EPA developed in 2005, 'Criteria for Assessing Whether an Ozone Nonattainment Area is Affected by Overwhelming Transport', noting that it could be useful in developing the technical information to support a request for treatment as an RTA.[13] 79 FR at 75384. It could also be useful to EPA in developing guidance for states to use in demonstrating that an area is an RTA. The draft guidance proposes a weight of evidence approach to demonstrate that 1) the area is rural, 2) the contribution of local emissions is relatively minor, and 3) emissions from within the area do not significantly contribute to ozone in other areas. It addresses regional transport of ozone into a rural area. In addition, background sources of ozone such as stratospheric intrusions, wildfire ozone plumes or long-range transport of ozone from sources outside the U.S., which are significant factors in the western U.S., are an integral part of the analysis. These background sources contribute to exceedances of the NAAQS, but are not under states' control.

EPA boundary guidance for RTAs must also address the western states' issue related to the large size of western counties. On December 4, 2008, EPA issued guidance listing nine factors[14] to be considered in determining nonattainment area boundaries for the 2008 ozone

[13]In implementing the 1997 ozone NAAQS, EPA established an "overwhelming transport" classification for rural nonattainment areas. Even though the classification was overturned by the court, the concept remains valid and is embodied in the CAA as the RTA provision.

[14] Air quality data; emissions data (location of sources and contribution to ozone concentrations); population density and degree of urbanization (including commercial development); traffic and commuting patterns; growth rates and patterns; meteorology (weather/transport patterns); geography/topography (mountain ranges or other air basin boundaries); jurisdictional boundaries (e.g., counties, air districts, existing nonattainment areas, Reservations, metropolitan planning organizations); and level of control of emission sources.

ED_002666_00016588-00017

NAAQS area designations. EPA's April 16, 2013 boundary guidance for the 2012 $PM_{2.5}$ NAAQS lists five factors.[15] EPA should consider using these previous guidance documents together with historical determinations of RTA boundaries to develop a list of recommended factors for defining the boundary of an RTA. EPA cites two examples of historical RTA designations in the NPR (Essex County, New York and Smyth County, Virginia) (FR 79 at 75384). It is essential for EPA to look to these in preparing an updated guidance for RTA designations. Both designations had boundaries limited to the parts of the county that were being effected by the long range transport of ozone from well outside of EPA's presumptive nonattainment area boundary.

The revised guidance should also offer a method for adjusting the Census Bureau definition of MSA to more closely reflect the "core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core" (Census Bureau definition) in areas where the county boundaries are not representative of the true populated area. The term "adjacent" could be defined under this approach to include a reasonable buffer around the populated area rather than relying on county boundaries. This approach would meet the intent of the CAA to allow the designation of RTAs in rural areas in a more consistent manner throughout the country. If the boundaries of the enormous MSAs and areas adjacent to the MSAs in the west can be reduced, then perhaps the RTA tool might be a viable way to avoid the requirements of higher nonattainment area classifications.

C. Clean Air Act Section 179B

One of the mechanisms that EPA references to address high background levels of ozone in the intermountain west is CAA Section 179B. Section 179B of the CAA applies to international transport of air pollution, which may contribute to high background levels for certain international border regions. Section 179B allows EPA to approve a SIP that does not demonstrate attainment or maintenance of the NAAQS as long as all required measures have been implemented if the state demonstrates that the plan would have met the standard "but for" the impact of international emissions. Section 179B provides some regulatory relief by preventing automatic bump ups to higher nonattainment classifications and sanctions for not attaining the standard. It is disappointing, however, that EPA has presented CAA Section 179B as a viable tool to address high background levels of ozone, when in actuality it leaves communities with significant burdens to implement regulatory requirements that may have little environmental benefit.

---

[15] Air quality data; emissions and emissions-related data; meteorology; geography/topography; and jurisdictional boundaries.

ED_002666_00016588-00018

Western states have some experience with international transport and the limitations of Section 179B. An example of this was the 179B, 1-hour ozone nonattainment area in Sunland Park, New Mexico. Sunland Park, New Mexico is located in the Paso del Norte air shed, which includes El Paso, Texas, Ciudad Juarez, Mexico, and Sunland Park, New Mexico. This small community with a population of 13,000 only contributes roughly three (3) percent of the total ozone precursor emissions within the Paso del Norte air shed. This area had almost no control over the emissions that caused the area to be designated nonattainment, but was still required to abide by the nonattainment requirements under the CAA including general conformity, nonattainment NSR, and transportation conformity although these requirements provided limited, if any benefit in reducing ozone levels within the Paso del Norte air shed.

There is also the question as to how this provision would relate to international transport from countries that do not border the U.S., such as China. As research has shown, the U.S., particularly the western region, is impacted by transported ozone pollution from Asia. Even more concerning, that impact is increasing by approximately 0.63 ppb per year[16]. EPA states in their supporting materials for the proposed ozone rule that most areas will be attaining a standard of 70 ppb or 65 ppb for ozone by 2025 through existing and proposed federal rules for VOCs and NOx emissions. This statement is difficult to believe in areas where international transport from Asia is a significant contributor to ozone levels. Quantifying the impact of emissions due to global transport will also be challenging for states and could require technical expertise and global analyses that states do not have the resources to complete. EPA would need to develop 179B guidance that specifically addresses global transport from Asia and provide global modeling and technical assistance to states, otherwise a 179B demonstration may not be possible for qualifying states to complete.

It would benefit the western states as well as EPA, if EPA would take the initiative to fully research and address the issue of high background ozone concentrations in the intermountain west because existing tools such as CAA Section 179B were not designed to address such a widespread problem that states have no ability to address.

COMMENT 4. Implementation guidance will be needed if EPA promulgates a distinct secondary standard

WESTAR recognizes EPA's statutory responsibility to research and propose revisions to the secondary ozone NAAQS to provide requisite protection of public welfare. If EPA promulgates a new distinct secondary standard, western states will be faced with a complex regional scale problem affecting a vast geographical area without the capacity to evaluate the

[16] Cooper et al., 2010 Nature

ED_002666_00016588-00019

underlying causes and effects, much less assess the most cost-effective solutions to address the problem.

EPA proposes that "ambient O_3 concentrations resulting in cumulative seasonal O_3 exposures of a level within the range from 13 ppm-hrs to 17 ppm-hrs, in terms of a W126 index averaged across three consecutive years, would provide the requisite protection against known or anticipated adverse effects to the public welfare."[17] EPA proposes a secondary standard that is the same as the primary standard based on a demonstration that an improvement in the primary standard will result in corresponding improvements in the W126 metric. However, EPA solicits comment on an alternative approach of revising the secondary standard to an average W126 value within the range of 13 to 17 ppm-hours, averaged across three consecutive years. EPA further contends that such a secondary standard, "…would be directly linked to ozone exposures to which vegetation are most responsive and thus might be expected to provide some confidence that such exposures of concern would be controlled." [18]

Further research is needed to characterize the sensitivity of vegetation in high-altitude areas to ozone. A growing body of research indicates that stratospheric intrusions and mixing between the stratosphere and troposphere are common occurrences in high altitude, mountainous areas. Forests and other vegetation in these high altitude areas may therefore be less sensitive to ozone than vegetation in lower altitude areas that has not adapted to this natural occurrence of ozone. Research is also needed to characterize the sensitivity of vegetation in desert areas where plants are adapted to respire during the night when temperatures are lower and less water is lost in the process. A metric that excludes nighttime ozone levels may not be protective in desert areas.

There are significant implementation issues that need to be addressed before EPA considers an alternative proposal that establishes a secondary standard using the W126 metric.

A. Growing season.

The W126 air quality metric is used to assess cumulative impacts of ozone exposure on ecosystems and vegetation. As discussed in the proposed regulation (FR 79, page 75315), "…plant sensitivity to ozone varies with the time of day and plant development stage…" EPA has previously concluded that the consecutive 3-month period within the ozone season with the highest W126 index value (e.g. maximum 3-month period) would, in most cases, likely coincide with the period of greatest plant sensitivity on an annual basis (FR 75, page 3013, January 19, 2010). The alternate W126 metric is based on the 3 consecutive month period within the ozone season with the maximum index value and does not account for situations where the three highest months do not coincide with the period of greatest plant sensitivity. For example, in the

[17] 79 FR 75349, December 17, 2014.
[18] 79 FR 75349-75350, December 17, 2014.

ED_002666_00016588-00020

Upper Green River Basin in Wyoming and the Uinta Basin in Utah, the highest ozone values occur during the winter months when vegetation is dormant and often covered in snow. Temperatures in these areas are frequently below freezing during these elevated ozone episodes. A similar circumstance occurs in desert areas where vegetation is dormant during hot, dry periods in the summer, especially during the daylight hours that are the focus of the W126 metric.

If EPA finalizes the secondary standard using the W126 metric, WESTAR requests that EPA reconsider the methodology used to select the consecutive 3-month period that is part of the form of the standard. The proposed rule, as written, uses the 3-month period with the highest W126 index value in the alternative approach. While this approach would coincide with periods of greatest plant sensitivity in most cases, some areas could be designated nonattainment for the secondary ozone standard due to high ozone values monitored during times when vegetation is dormant. The methodology needs to include a mechanism to consider the growing season in an area. WESTAR proposes two potential mechanisms to address this problem.

Option 1: WESTAR recommends that EPA allow states, with approval of the Regional Administrator, to use an alternate 3 month period that is within the growing season in that state when the 3 highest months do not correspond to a time period when vegetation is biologically active. Allowing states the ability to provide a demonstration of an alternate time period that is within the growing season in that state would provide the flexibility needed to effectively implement the W126 secondary ozone standard as required by the Clean Air Act. As the intent of the proposed rule for the secondary standard is to provide protection for vegetation, it is reasonable and appropriate that the EPA provide this flexibility.

Option 2: Another approach would be for EPA to establish a secondary standard ozone season that is distinct from the ozone monitoring season and that corresponds to time periods when vegetation is biologically active in a state, or a sub-region within a state. Federal Land Managers (FLMs) have botanists on staff with the expertise to provide EPA the necessary information needed to establish a distinct growing season in the final rule.

These alternative approaches would provide states that experience unique ozone episodes under extreme heat, cold, or other extreme events, the ability to implement measures that protect biologically active vegetation impacted by ozone during a true and distinct growing season. Under these alternative approaches, areas would not be designated nonattainment based on ozone values outside of the established secondary standard ozone season. EPA's establishment of a distinct growing season for the secondary standard would ensure that the intent of the CAA for the secondary standard is being met.

ED_002666_00016588-00021

B. Modifications to AQS.

The W126 metric is extremely difficult to calculate. It is not currently possible to determine attainment status under a potential W126 standard using the Standard Reports available in EPA's AQS tool. States must calculate the W126 level based on hourly values, using the W126 calculation methodology described in EPA's previous proposal to revise the ozone standard, published on January 19, 2010. The complicated methodology increases the probability of errors when done independently by individual states. Alternatively, states may forgo this complicated calculation, leaving them without a clear indication of monitored W126 values. EPA needs to include a calculation of W126 in AQS as soon as possible so that states can adequately comment on the proposed secondary standard and begin planning to implement a potential new secondary standard.

C. Exceptional events criteria.

EPA needs to establish criteria for flagging exceptional events under a W126 metric. Ozone from stratospheric intrusions, wildfires, and lightning contribute to high background ozone levels throughout the western US. EPA has established a process for states to identify ozone exceedances that are affected by these exceptional events and to flag those data for exclusion from regulatory consideration. It is not clear how this process would work for a seasonal standard using the W126 metric. The W126 metric is a cumulative value over 3 months, but the value for an individual day is very small. The W126 metric also adds increasing weight to hourly concentrations from about 40 ppb to 100 ppb. What criteria would be used to determine when an exceedance had occurred that could be flagged? Would flagged data shift the 3-month period that is used to evaluate compliance with the standard? Would data be flagged separately for the primary and secondary standards? If not, how would states resolve different criteria for identifying exceedances under the primary and secondary standards?

WESTAR states are concerned that exceptional events under the W126 metric could occur frequently, requiring inordinate resources to demonstrate the impact of these events under the exceptional events rule. For example, during a high fire year lower level impacts could occur for months at a time interspersed with higher impacts due to local fires or changing wind patterns. States do not have the resources that would be needed to develop the frequent exceptional events demonstrations that would be required.

D. Planning guidance

States do not have experience implementing a distinct secondary standard. If EPA decides to promulgate a distinct secondary standard, they would need to develop guidance for

ED_002666_00016588-00022

how to develop a plan for a secondary standard and how that plan would differ from a plan for the primary standard. States would also require additional resources to develop a SIP under a distinct secondary standard beyond what would be required for the primary standard. This SIP would likely need to address the effects of ozone on vegetation and may apply in areas that are attainment for the primary standard where the SIP could not build on technical work completed for the primary standard SIP. It is difficult to quantify the additional resources that would be required because states do not have experience with developing a SIP for a secondary standard.

COMMENT 5. Revise procedure for determining maximum 8-hour average concentrations

WESTAR supports EPA's proposed procedure for determining daily maximum 8-hour average ozone concentrations based on 17 consecutive 8-hour periods in each day to avoid overlapping 8-hour periods over two separate days. WESTAR had previously commented on this issue[19] and supports EPA's proposal to resolve the problem of double-counting ozone episodes.

[19] Western States Air Resources Council, March 26, 2010, page 10. "In areas affected by ozone transport, the highest ozone concentrations often occur in the middle of the night. An 8-hour average that begins at 11:00 pm would be counted as an exceedance on the first day, while the 8-hour average that begins at midnight (that overlaps the previous average by 7 hours) would be counted as an exceedance on the second day. Thus, a single plume of ozone lasting for a few hours could penalize a State with two exceedance days instead of one, even if the high ozone did not span both sides of midnight, simply because the monitor records the effects of a transported plume rather than a locally-generated plume that is typically formed during daylight hours."

ED_002666_00016588-00023