BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:	)
SIP Provisions for the Attainment and Maintenance of the 8-hour Ozone National Ambient Air Quality Standards for the States of Arizona, California, Colorado, Idaho, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming;	)
and	)
Establishment of Western U.S. Interstate Transport Region, Western U.S. Interstate Transport Commission.	)

PETITION TO EPA TO CALL FOR THE REVISION OF STATE IMPLEMENTATION PLANS FOR ARIZONA, CALIFORNIA, COLORADO, IDAHO, KANSAS, MONTANA, NEBRASKA, NEW MEXICO, NEVADA, NORTH DAKOTA, OREGON, SOUTH DAKOTA, UTAH, WASHINGTON, AND WYOMING TO ENSURE ATTAINMENT AND MAINTENANCE OF THE 8-HOUR OZONE NATIONAL AMBIENT AIR QUALITY STANDARDS; and

PETITION TO EPA TO ESTABLISH A WESTERN UNITED STATES INTERSTATE TRANSPORT REGION AND A WESTERN UNITED STATES INTERSTATE TRANSPORT COMMISSION

Pursuant to the Administrative Procedure Act ("APA") and the Clean Air Act ("CAA"), WildEarth Guardians hereby petitions the Administrator of the U.S. Environmental Protection Agency ("Administrator" or "EPA") to call for the revision of state implementation plans ("SIPs") for the States of Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming (hereafter referred to as "the Western States") due to their failure to attain and maintain the 8-hour ozone National Ambient Air Quality Standards ("NAAQS") and to mitigate adequately the interstate transport of ozone air pollution in accordance with section 110 of the

CAA.[1] Petitioners further petition the Administrator to establish an interstate transport region encompassing all or portions of the Western States, and to establish an interstate transport commission in accordance with section 176A of the CAA.[2]

In March of 2008, the EPA revised the NAAQS for ozone air pollution, the key ingredient of smog. The EPA established stronger limits on this harmful air pollutant to better safeguard public health and welfare.[3] These standards, which limit ozone concentrations to no more than 0.075 parts per million ("ppm") over any daily eight-hour period, became effective May 28, 2008.[4] Information from the EPA shows a number of areas in the Western States are already in violation of the new 8-hour ozone, including the majority of California, Boise, Idaho, Las Vegas, Nevada, Salt Lake City, Utah, Phoenix, Arizona, and Denver, Colorado. However, new information suggests that much broader regions of the Western States are very likely to exceed and/or violate the new 8-hour ozone NAAQS within the next 10 years.[5]

According to a draft white paper recently prepared for the Western Regional Air Partnership ("WRAP"), "[B]road regions throughout the west are predicted to exceed and/or violate the new ozone NAAQS[.]"[6] This finding, which was based on a modeling analysis using the EPA-approved CMAQ model, shows that by 2018, most of the interior Western States—

[1] 42 USC § 7410.

[2] 42 USC § 7506a.

[3] 73 Fed. Reg. 16436-16514.

[4] *Id.*

[5] A violation of the 8-hour ozone NAAQS occurs when the three year average of the annual fourth highest daily maximum ozone concentration exceeds 0.075 parts per million at any monitor. An exceedance of the 8-hour ozone NAAQS occurs whenever ozone concentrations at any location exceed 0.075 parts per million. *See* 73 Fed. Reg. 16512.

[6] *See* Exhibit 1 to this petition, Mansell, G, "Revised 8-hr ozone NAAQS and Implications for the Western States," Draft White Paper prepared for the Western Regional Air Partnership (July 15, 2008), at unnumbered page 12.

including Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming—are projected to be in violation of the new ozone NAAQS of 0.075 ppm based on the predicted fourth highest daily maximum ozone concentration. The modeling further predicts that maximum daily 8-hour ozone concentrations are likely to exceed 0.1 ppm throughout large portions of Colorado, southern Idaho, northern New Mexico, southern Utah, and parts of every other western state. **Quite literally, projections show the Western States will be shrouded in a blanket of smog by 2018.**

The draft white paper prepared for the WRAP solidifies concerns that ozone air pollution is indeed being transported throughout the Western States and is a regional problem. In the past, the EPA and even some states have discounted the potential for transport of ozone air pollution in the Western States. However, according to the draft white paper prepared for the WRAP, "[C]ontrary to assessments of the impacts of the new ozone standards based on EPA's model predictions, WRAP's modeling efforts highlight the regional nature of the ozone air quality problem throughout the Western US."[7] The white paper continued, "Within the WRAP region, the ozone air quality problem is clearly a regional issue, as evidenced by regional CMAQ modeling results[.]"[8]

These findings are even more urgent in light of studies indicating that global climate change is very likely to exacerbate ozone air pollution in the Western States.

Put simply, the Western States face an imminent ozone air pollution crisis on a regional scale. To that end, the West urgently needs regional solutions to safeguard public health and welfare throughout the region. The EPA can help provide these solutions by expeditiously

[7] *Supra*. Note 6 at unnumbered page 13.

[8] *Id*. at unnumbered pages 13-14.

calling for revisions of SIPs and by establishing an interstate transport region that encompasses the Western States. Indeed, the agency has a duty to do so. This petition requests the EPA take action to proactively curb ozone air pollution in Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming, all states that are projected to exceed and/or violate the 8-hour ozone NAAQS by 2018.

I. PROCEDURAL AUTHORITY TO PETITION THE ADMINISTRATOR

We petition the EPA pursuant to the Administrative Procedure Act.[9] The APA provides citizens the opportunity to bring matters before federal agencies for resolution, and requires that "[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule."[10]

A SIP is a living document, which the State and EPA can, from time to time, revise as necessary.[11] A SIP must attain and maintain the NAAQS.[12] Among other things, a SIP must contain adequate provisions that prohibit air pollution that contributes significantly to nonattainment or interfere with maintenance of the NAAQS in downwind states.[13] Pursuant to the CAA, the EPA is required to initiate rulemaking proceedings and to call for SIP revisions if a SIP is found to be inadequate or fails to meet the requirements of the CAA. The CAA states:

[9] 5 USC § 553(e) (rulemaking) and 5 USC § 555(b) (interested persons may present a matter to agencies, agencies required to conclude matter).

[10] 5 USC § 553(e).

[11] Approval and Promulgation of Air Quality Implementation Plans; Vermont, 68 Fed. Reg. 34,808-34813 (June 11, 2003) (codified at 40 CFR Part 52) (final rule; notice of administrative change).

[12] 42 USC § 7410(k)(5) (SIP revision required if substantially inadequate to attain or maintain the NAAQS).

[13] 42 USC § 7410(a)(2)(D)(i).

> Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant national ambient air quality standard, to mitigate adequately the interstate pollutant transport described in section 176A or section 184, or to otherwise comply with any requirement of this Act, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies.[14]

The duty to issue a SIP call is nondiscretionary.[15] If a SIP call is issued, a state has no more than 18 months to correct any inadequacies.

Pursuant to section 176A of the CAA, the EPA has the authority to establish an interstate transport region. An interstate transport region may be established "if the Administrator has reason to believe that the interstate transport of air pollutants from one or more States contributes significantly to a violation of a national ambient air quality standard in one or more other States[.]"[16] An interstate transport region may be established on the Administrator's "own motion," and must be established "by rule."[17] An interstate transport region should include "any State or portion of a State" that significantly contributes to a violation of the NAAQS in the transport region.[18] Whenever an interstate transport region is established, the Administrator must also establish a transport commission.[19] An interstate transport commission is required to:

> [A]ssess the degree of interstate transport of the pollutant or precursors to the pollutant throughout the transport region, assess strategies for mitigating the interstate pollution, and recommend to the Administrator such measures as the Commission determines to be

[14] 42 USC § 7410(k)(5).

[15] *Id.*

[16] 42 USC § 7506a(a).

[17] *Id.*

[18] 42 USC § 7506a(a)(1).

[19] 42 USC § 7506a(b).

necessary to ensure that the plans for the relevant states meet the requirements of section 110(a)(2)(D).[20]

An interstate transport commission may also request the Administrator call for SIP revisions pursuant to section 110(k)(5) of the CAA if a SIP for one or more states in an interstate transport region fails to meet the requirements of section 110(a)(2)(D) of the CAA.[21]

The APA requires the EPA to resolve matters within this petition under a reasonable timeframe.[22] We request the EPA make a finding that SIPs for the Western States are substantially inadequate within 18 months of receiving this petition, thereby giving these states until 2013 to revise their SIPs. We further request the EPA establish an interstate transport region encompassing all or parts of the states of the Western States within 18 months of receiving this petition. In light of mounting evidence that ozone air pollution is posing increasing public health risks throughout the Western States and that interstate transport of ozone air pollution is occurring within the region, these timeframes are reasonable.

II. THE HEALTH EFFECTS OF OZONE

The CAA aims to "protect and enhance the quality of the Nation's air resources."[23] To help meet this goal, the CAA requires the EPA to identify pollutants that "may reasonably be anticipated to endanger public health and welfare" and to establish NAAQS for those

[20] 42 USC 7506a(b)(2).

[21] 42 USC § 7506a(c).

[22] 5 USC § 555(b).

[23] 42 USC § 7401(b)(1).

pollutants.[24] The NAAQS are based solely on what is necessary to protect public health and welfare.[25]

Ozone has been identified as a pollutant that may reasonably be anticipated to endanger public health and welfare.[26] Ozone forms when sunlight reacts with two key pollutants, nitrogen oxides ("NO_x"), which are released by engines and smokestacks, and volatile organic compounds ("VOCs"), a group of pollutants that evaporate from gas stations, paints, solvents, oil and gas production facilities, and other sources. NO_x and VOCs are referred to as ozone precursors. The main ingredient of smog, ozone can irritate the respiratory system, reduce lung function, aggravate asthma and other respiratory conditions, increase susceptibility to respiratory infections, inflame and damage the lining of lungs, and destroy vegetation. Ozone is particularly harmful to children, those with asthma and other respiratory conditions, seniors, and even active adults.[27] Most recently, the National Academies of Science confirmed the link between ozone pollution and premature death.[28]

The EPA promulgated an 8-hour ozone NAAQS on March 27, 2008, limiting concentrations to no more than 0.075 ppm over an eight hour period (called the eight-hour ozone National Ambient Air Quality Standard), and this standard became effective on May 28, 2008.[29]

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[24] 42 USC § 7408.

[25] *American Trucking Association v. Whitman*, 531 U.S. 457 (2001).

[26] 73 Fed. Reg. 16436-16514.

[27] U.S. Environmental Protection Agency, "Health Effects of Ozone in the General Population." Available online at http://www.epa.gov/03healthtraining/population.html.

[28] Committee on Estimating Mortality Risk Reduction Benefits from Decreasing Tropospheric Ozone Exposure, National Research Council, "Estimating Mortality Risk Reduction and Economic Benefits from Controlling Ozone Air Pollution," (April 22, 2008). Available online at http://www.nap.edu/catalog.php?record_id=12198.

[29] 73 Fed. Reg. 16436-16514.

While the current 8-hour ozone NAAQS limits concentrations to no more than 0.075 ppm, overwhelming scientific evidence indicates that ozone concentrations as low as 0.060 parts per million are detrimental to human health. In fact, the EPA's own Clean Air Scientific Advisory Committee ("CASAC") has refused to endorse the current NAAQS of 0.075 ppm. In an April 7, 2008 letter to the Administrator, Dr. Rogene Henderson, the Chair of the CASAC, stated:

> [T]he members of the CASAC Ozone Review Panel do not endorse the new primary ozone standard as being sufficiently protective of public health. The CASAC—as the Agency's statutorily-established science advisory committee for advising you on the national ambient air quality standards—unanimously recommended decreasing the primary standard to within the range of 0.060-0.070 ppm. It is the Committee's consensus scientific opinion that your decision to set the primary ozone standard above this range fails to satisfy the explicit stipulations of the Clean Air Act that you ensure an adequate margin of safety for all individuals, including sensitive populations.[30]

Notwithstanding the current 8-hour ozone NAAQS, there is clearly reason to be concerned whenever ozone concentrations fall between 0.060-0.070 ppm.

III. OZONE AIR POLLUTION IN THE WESTERN UNITED STATES

Ozone air pollution has long been thought to be limited to urban areas of the Western States. The cities of Denver, Los Angeles, Phoenix, and Salt Lake City, for example, have individually undertaken efforts to address ozone air pollution within their local metropolitan regions. However, new information strongly indicates that ozone air pollution is impacting a much broader region of the Western States, including both urban and rural areas alike. Further,

[30] Letter to Stephen Johnson, EPA Administrator, from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee (April 7, 2008). Available online at http://yosemite.epa.gov/sab/sabproduct.nsf/4AF876432433128885257425006 9E494/$File/EPA-CASAC-08-009-unsigned.pdf.

while previously considered to be a localized problem, it is becoming all too clear that ozone air pollution is a regional concern in the Western States. As a recent news article in the Denver Post reported, "Ozone pollution—once seen as mainly an urban problem—is spreading across the interior West from rural Wyoming to suburban Phoenix."[31]

Already, a number of areas in the Western States are projected to violate the 8-hour ozone NAAQS of 0.075 ppm, many of which have never faced the prospect of unhealthy ozone air pollution before. Based on actual monitoring data from 2004-2006, large areas of California and parts of Arizona, Colorado, Idaho, Nevada, and Utah are in violation of the 8-hour ozone NAAQS according to the EPA. *See* Figure 1. More recent monitoring data indicates additional areas will violate the 8-hour ozone NAAQS based on 2006-2008 monitoring data, including San Juan County, New Mexico, Doña Ana County, New Mexico, Sublette County, Wyoming, and King County, Washington, among others. Many of these areas are rural, underscoring the breadth of the ozone problem in the Western States.

[31] *See* Exhibit 2, Jaffe, M., "From Calif. to Denver. Ozone woes become regional," *Denver Post* (November 1, 2008).

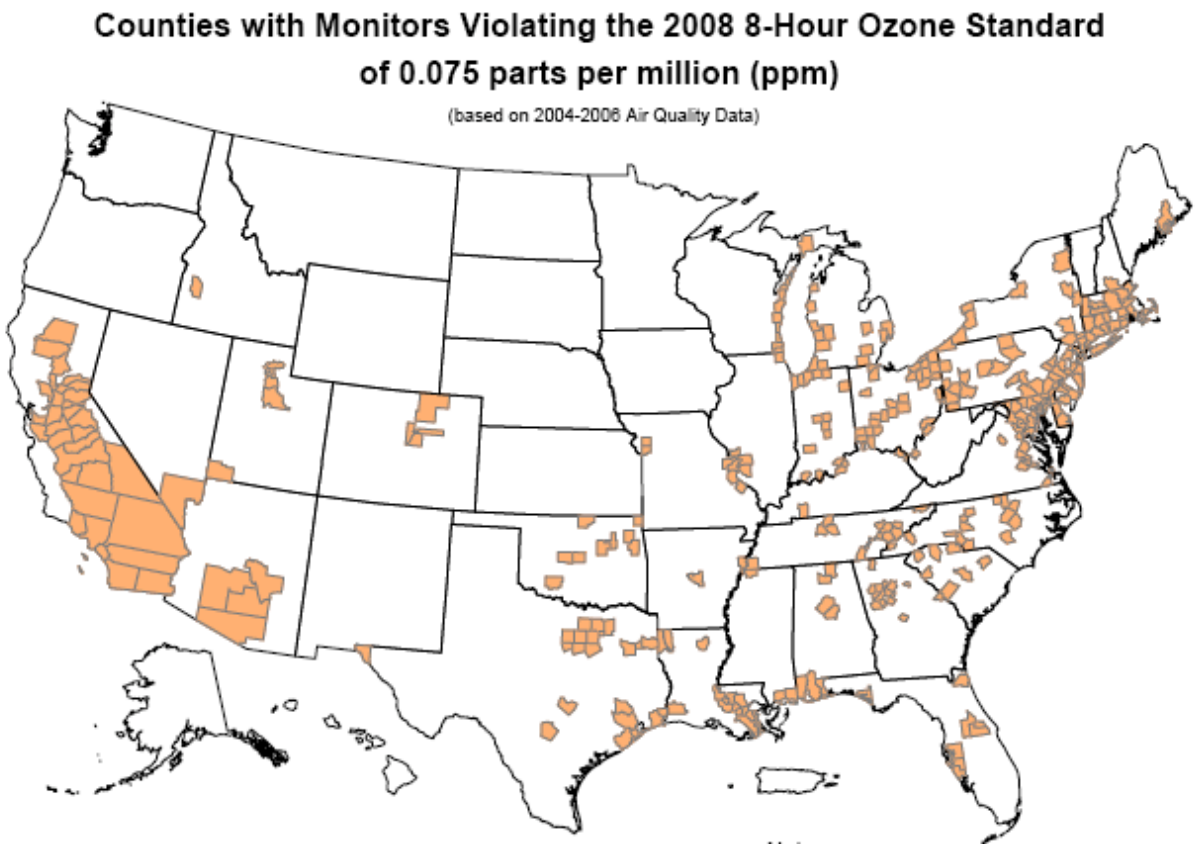

Figure 1. Counties with Monitors Violating the 8-hour Ozone NAAQS based on 2004-2006 data (figure from EPA).

Ozone monitoring data further shows that while not all areas of the Western States are projected to violate the 8-hour ozone NAAQS, a number of areas regularly exceed the 8-hour ozone NAAQS, raising concerns that maintenance of the 8-hour ozone NAAQS may be at risk. Indeed, in 2007 alone, 2,758 exceedances of the 8-hour ozone NAAQS were reported throughout the Western States, while thousands more have been reported since 2000. *See* Table 1. The EPA has indicated that it believes any area within 0.003 ppm (i.e., 3 parts per billion) of violating the

ozone NAAQS is at risk of sliding into nonattainment, thereby jeopardizing maintenance of the NAAQS.[32]

Table 1. Number of monitored exceedances of the 8-hour ozone NAAQS in the western U.S., 2000-2007.[33]

State	2007	2006	2005	2004	2003	2002	2001	2000
Arizona	89	268	238	65	273	329	199	349
California	2,251	3,389	2,598	2,989	4,442	4,505	3,818	3,604
Colorado	93	144	78	14	168	97	41	69
Idaho	11	11	4	1	4	10	5	0
Kansas	12	42	37	2	61	35	47	58
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	1	0	0	2
Nevada	114	158	160	77	176	176	87	98
New Mexico	25	37	50	12	67	70	17	58
North Dakota	0	0	0	0	1	0	0	0
Oklahoma	33	282	138	47	149	147	173	201
Oregon	1	12	7	4	13	8	3	0
South Dakota	0	2	2	0	2	2	1	0
Utah	120	114	138	10	102	112	70	45
Washington	4	18	2	7	37	4	6	7
Wyoming	5	6	8	0	8	1	0	0
TOTAL	**2,758**	**4,483**	**3,460**	**3,228**	**5,504**	**5,496**	**4,467**	**4,491**

Unfortunately, ozone monitoring data is generally limited in the Western United States. For instance, while the State of California has 179 ozone monitors in operation, the State of Montana currently has only one. The draft white paper prepared for the WRAP identifies this monitoring gap, stating "there is clearly a critical need for additional monitors throughout the region."[34] Of particular concern is that ozone monitors in the Western States are located primarily in large urban areas, while rural areas and small to mid-size urban areas lack sufficient

[32] *See* EPA, *Corrected Response to Significant Public Comments on the Proposed Clean Air Interstate Rule* at 148 (April 2005).

[33] Data from EPA, accessible online at http://www.epa.gov/air/data/geosel.html. Monitoring data from 2008 has not yet been completely submitted to the EPA by every western state.

[34] *Supra*. Note 6 at unnumbered page 16.

monitoring. In effect, this strongly indicates that high ozone concentrations are going undetected throughout the region, particularly in rural areas. Indeed, recent monitoring in rural areas of western Colorado, northwestern New Mexico, and western Wyoming has revealed high ozone concentrations, and even violations of the 8-hour ozone NAAQS. In Garfield County located in western Colorado, exceedances of the 8-hour ozone NAAQS were recorded in 2008, the first year ozone monitoring had occurred in the County.[35] While existing data clearly shows there are existing ozone air pollution concerns throughout the Western States, it is reasonable to conclude that the scope and magnitude of the problem is much more significant and very likely to remain so.

This conclusion is bolstered by the results of the modeling prepared for the WRAP, which strongly indicate that attainment and maintenance of the 8-hour ozone NAAQS is at risk throughout the Western States. As discussed earlier in this petition, a draft white paper prepared for the WRAP states that by 2018, "[B]road regions throughout the west are predicted to exceed and/or violate the new ozone NAAQS[.]"[36] The modeling in fact shows that the annual fourth maximum 8-hour ozone concentration will exceed 0.075 ppm throughout much of Arizona, California, Colorado, New Mexico, Utah, and Wyoming, as well as large areas of Nevada, portions of southern Idaho, the panhandle of Oklahoma, and portions of western Nebraska. *See* Figure 2.

[35] *See* Exhibit 3, Yates, P., "Air quality standards exceeded in Garfield County," *Glenwood Springs Post-Independent* (December 16, 2008).

[36] *Supra* Note 6 at unnumbered page 12.

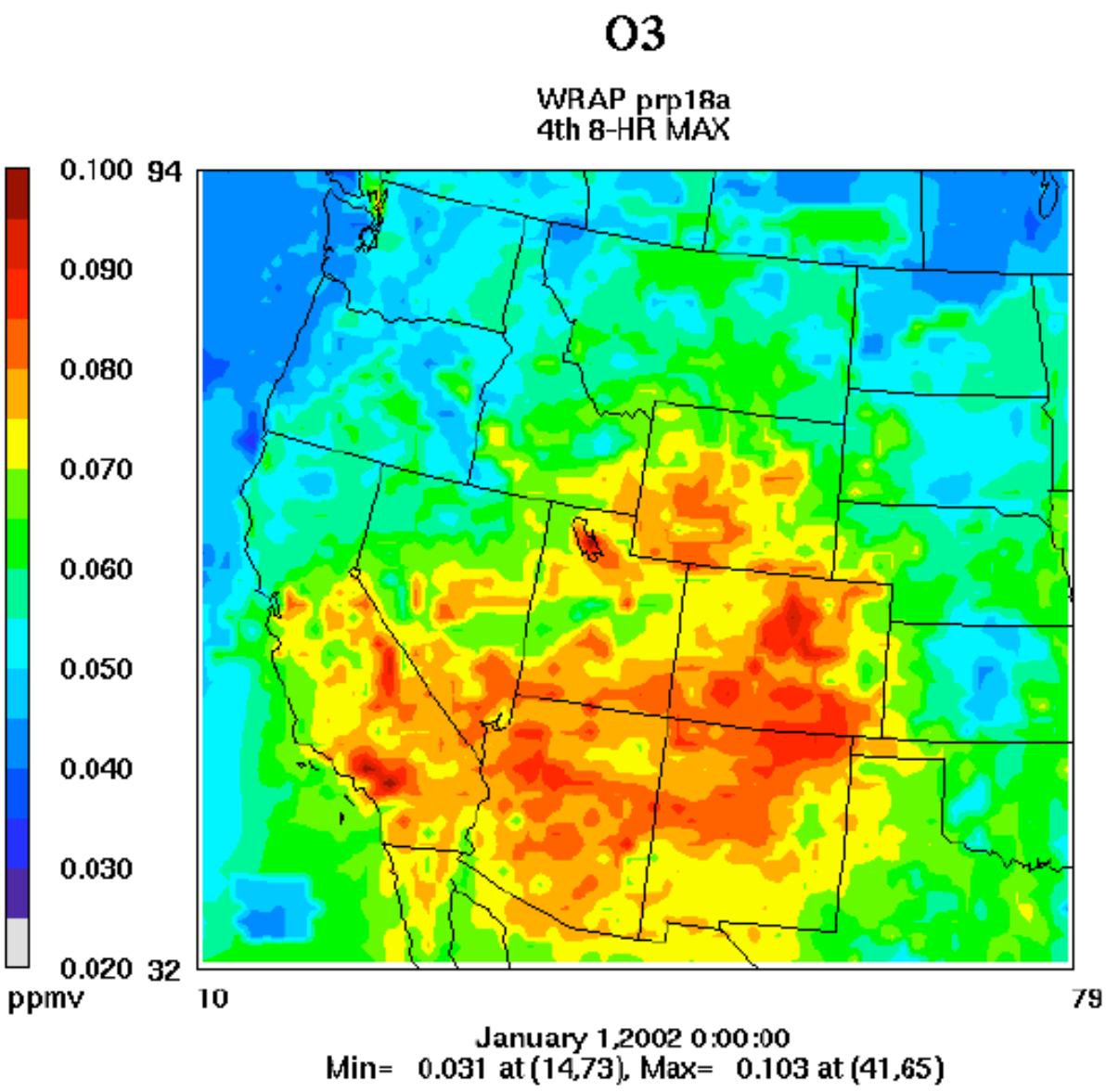

Figure 2. Projected 2018 annual fourth maximum ozone concentrations in the Western United States. Data prepared for WRAP for haze analyses.[37]

Most disconcerting however, is that the modeling shows that the annual highest 8-hour ozone concentration will exceed 0.075 ppm—and in many cases reach higher than 0.1 ppm—throughout the Western States, including portions of Kansas, Montana, North and South Dakota,

[37] *See* Exhibit 4, Tonnesen, G., Z. Wang, M. Omary, C. Chien, Z. Adelman, and R. Morris, "Review of Ozone Performance in WRAP Modeling and Relevance to Future Regional Ozone Planning," presentation given at WRAP Workshop on Regional Emissions and Air Quality Modeling Studies (July 30, 2008), at slide 28.

Washington, and Oregon. *See* Figure 3. The modeling projects the highest ozone concentrations over most of Colorado and southern Idaho. The highest ozone concentration is projected to be 0.141 ppm, nearly twice as high as the 8-hour ozone NAAQS.

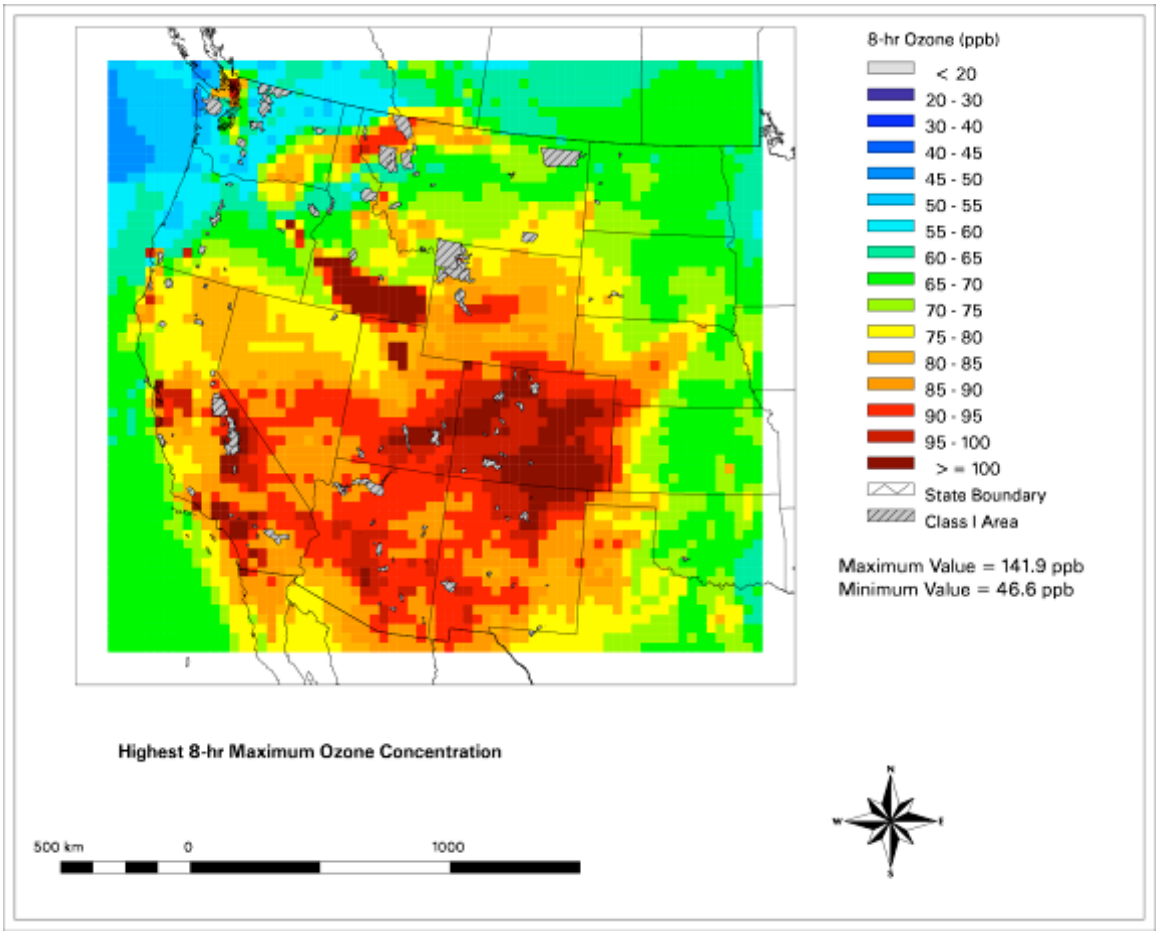

Figure 3. Projected 2018 annual highest maximum ozone concentrations in the Western United States. Data prepared for WRAP for haze analyses.[38]

The modeling prepared for the WRAP not only underscores the ozone air pollution challenges facing the Western States, but underscores the fact that transport—both of ozone and ozone precursors—is influencing regional ozone concentrations more than ever before. As the

[38] *Supra*. Note 6 at unnumbered page 12.

draft white paper prepared for the WRAP states, "[C]ontrary to assessments of the impacts of the new ozone standards based on EPA's model predictions, WRAP's modeling efforts highlight the regional nature of the ozone air quality problem throughout the Western US."[39] The white paper continued, "Within the WRAP region, the ozone air quality problem is clearly a regional issue, as evidenced by regional CMAQ modeling results[.]"[40] **Put simply, addressing the ozone challenges facing the Western States will require regionally-focused solutions.**

Studies have indeed confirmed that ozone concentrations in the Western United States can be greatly influenced by regional transport. A study prepared for the Western States Air Resources Council that focused on six cities in the Western States found that on days when ozone concentrations were at least 85 parts per billion (or 0.085 ppm), the average contribution of transported anthropogenic ozone was as high as 44%.[41] *See* Table 2. For some cities, such as Denver and Las Vegas, transported anthropogenic ozone was on average higher than locally generated ozone. The study specifically reported that for Salt Lake City and Las Vegas, transported ozone likely originated in neighboring states.[42] The study generally reported that transported anthropogenic ozone does influence ozone concentrations, sometimes significantly, in Denver, Las Vegas, Phoenix, Salt Lake City, and Seattle.

[39] *Supra*. Note 6 at unnumbered page 13.

[40] *Id*. at unnumbered pages 13-14.

[41] *See* Exhibit 5, MacDonald, C.P., D.S. Miller, S. Raffuse, and T.S. Dye, "WESTAR Ozone Transport Analysis," presentation to WESTAR Fall Business Meeting (September 27, 2006).

[42] *Id*. at slides 18-19.

Table 2. Summary of average contributions on days when peak local 8-hour ozone concentrations were at least 85 parts per billion.[43]

City	Background Ozone (ppb)	Total transported anthropogenic ozone (ppb)	Total locally generated ozone (ppb)	Peak ozone concentration (ppb)	% contribution from transport
Denver	35	35	23	92	38%
Las Vegas	35	39	14	88	44%
Phoenix	35	22	32	89	24%
Salt Lake City	35	22	35	91	24%
Seattle	35	8	47	90	9%

Recent ozone modeling for the Denver Metropolitan region of Colorado provides further evidence that monitored ozone concentrations can be dominated by transport. According to the most recent report, when ozone levels are highest in the Denver Metropolitan region, the contribution of anthropogenically transported ozone ranges between approximately 0.01-0.02 ppm.[44] On the days with the highest reported ozone concentrations, source apportionment modeling shows that transport from neighboring states, particularly Wyoming, can have a profound impact on overall ozone levels. For instance, source apportionment modeling for the Fort Collins West ozone monitor, located in Larimer County, Colorado, shows that on July 28, 2006, the contribution of ozone from the States of Idaho, Oregon, and Wyoming amounted to nearly 20% of the total monitored ozone generated from within the State of Colorado.[45] *See* Figure 4.

[43] *Supra*. Note 39 at slide 21.

[44] *See* Exhibit 6, Morris, R., E. Tai, T. Sakulyanontvittaya, D. McNally, and C. Loomis, "Denver 2010 8-Hour Ozone Source Apportionment Results," presentation given to the Regional Air Quality Council (August 11, 2008), at slide 37.

[45] *Supra*. Note 44 at slide 17. Although the source apportionment modeling identifies ozone as originating in the States of Idaho, Oregon, Wyoming, these states are only partially encompassed by the boundary of the source

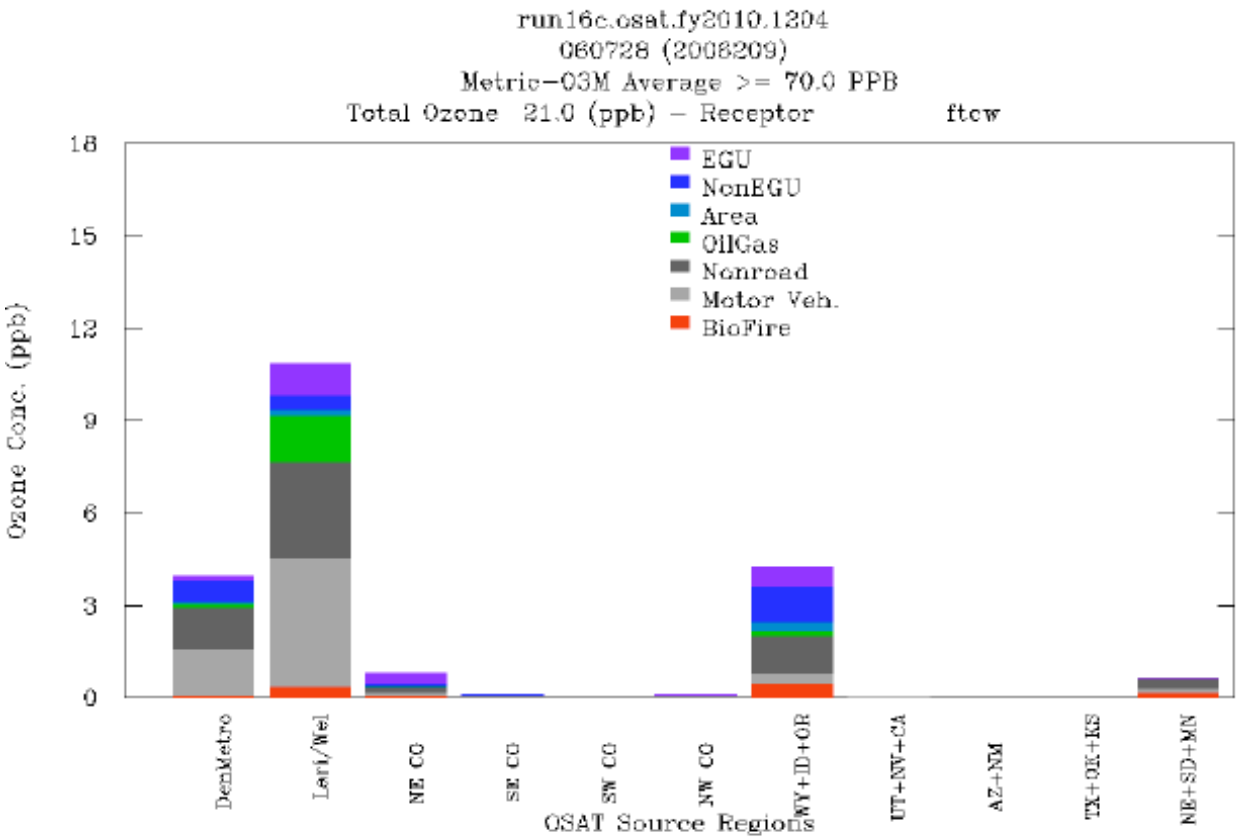

Figure 4. An example of source apportionment results for the Fort Collins West monitor, located in Larimer County, Colorado, showing the contribution of ozone from Wyoming, Idaho, and Oregon during an episode on July 28, 2006.

The problem of ozone in the Western States is also projected to worsen in the face of global warming. As the United Nations Environmental Programme ("UNEP") notes, global warming is an increasingly significant factor "promot[ing] the formation of surface ozone."[46] One of the principle effects of global warming is an increase in the "frequency and intensity of

region. Thus, the source apportionment modeling represents an underestimate of the total ozone contributed from these states.

[46] *See* Exhibit 7, UNEP, *How Will Global Warming Affect My World: A Simplified Guide to the IPCC's "Climate Change 2001: Impacts, Adaptation and Vulnerability*," 14, GE.03-03327-December 2003-2,000.

heat waves."[47] As a result of the tendency of global warming to produce longer and hotter summer peak temperatures, the Intergovernmental Panel on Climate Change ("IPCC") projects increases in July mean ground-level ozone concentrations over the industrialized continents of the northern hemisphere will climb above 0.07 ppm by the year 2100.[48] A 2007 study by scientists at Harvard, NASA, and the Argonne National Laboratory specifically reported that global warming is likely to increase maximum eight-hour ozone concentrations by 2-5 parts per billion (i.e., 0.002-0.005 ppm) over large swaths of the United States, including the West, by mid-century.[49]

The modeling prepared for the WRAP, coupled with more site-specific analyses, existing ozone monitoring data, and new findings regarding the effects of global warming, clearly show that the Western States are facing and will continue to face unprecedented and mounting challenges to clean up ozone air pollution. Importantly, ozone air pollution appears to be a significant regional problem that will require regionally-focused solutions.

IV. JUSTIFICATION FOR A SIP CALL

The EPA is required to call for the revision of a SIP if it is found to be "substantially inadequate to attain or maintain the relevant national ambient air quality standard, to mitigate adequately the interstate pollutant transport described in section 176A or section 184, or to otherwise comply with any requirement of this Act."[50] The best available information strongly

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[47] *Id*. at 14.

[48] *See* Exhibit 8, IPCC, *Climate Change 2001: Working Group II: Impacts, Adaptation and Vulnerability, Technical Summary* at Part 3.5.

[49] *See* Exhibit 9, Shiliang, W., et al., *Effects of 2000-2050 Global Climate Change on Ozone Air Quality in the United States* (Oct. 9, 2007).

[50] 42 USC § 7410(k)(5).

indicates that SIPs for the Western States are substantially inadequate to attain or maintain the 8-hour ozone NAAQS, to adequately mitigate interstate ozone transport, and to generally comply with the requirements of section 110 of the CAA.

Modeling prepared for the WRAP projects that by 2018, the 8-hour ozone NAAQS will be exceeded and/or violated in the Western States. Notably, by 2018, the fourth highest daily maximum 8-hour ozone concentrations are predicted to exceed 0.075 ppm throughout the southwestern United States, including large portions of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, as well as portions of southern Idaho, western Kansas, western Nebraska, and western Oklahoma. These modeled results, coupled with existing monitoring data and studies on the effects of global warming, are a sign that these areas will most likely be in violation the 8-hour ozone NAAQS by 2018, if not earlier.

The modeling prepared for the WRAP strongly indicates that SIPs for the Western States are failing, or will fail, to attain and maintain the 8-hour ozone NAAQS. As the WRAP report states, "[B]road regions throughout the west are predicted to exceed and/or violate the new ozone NAAQS[.]"[51] These findings are a strong indication that these states will either violate or will come close to violating the 8-hour ozone NAAQS, meaning their SIPs are substantially inadequate and warrant revision.

Furthermore, modeling prepared for the WRAP strongly indicates that SIPs for the Western States are failing, or will fail, to mitigate interstate transport of ozone air pollution such that these states will not significantly contribute to nonattainment or interfere with maintenance of the 8-hour ozone NAAQS in downwind states. Already, studies have found that interstate transport of ozone air pollution and precursors in the Western States can have a profound impact

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[51] *Supra*. Note 6 at unnumbered page 12.

on local ozone concentrations. Furthermore, no Western State has adopted emission limitations or other control measures within a SIP to specifically address interstate transport of ozone or ozone precursors.[52] The WRAP report states that, "[T]he determination and quantification of long-range transport of ozone and ozone precursors versus locally formed ozone and associated emissions sources [will be a critical element to address in ozone planning]."[53] Although there is a need for additional analysis to determine which sources in which states may be significantly contributing to nonattainment or interfering with maintenance in downwind states, there exists sufficient information for the EPA to conclude that current SIPs are substantially inadequate in their ability to mitigate interstate transport of ozone air pollution or ozone precursors.

The failure of SIPs to adequately mitigate interstate transport of ozone air pollution or ozone precursors is further supported by comments from air quality regulators in the Western States. In a July 20, 2008 article published in the Farmington Daily Times, Mary Uhl, the Director of the New Mexico Environment Department's Air Quality Division, stated that emissions from Phoenix, Arizona, Los Angeles, California, and Denver, Colorado are impacting ozone air pollution levels in San Juan County, New Mexico, a county that violated the 8-hour ozone NAAQS in 2008.[54] Similarly, in a June 11, 2008 article, an air quality spokesperson for

[52] Notably, even the State of California has rejected adopting any SIP provisions to address interstate transport of ozone air pollution or ozone precursors. *See*, Air Resources Board, "Interstate Transport State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard and PM2.5 to Satisfy the Requirements of Clean Air Act section 110(a)(2)(D)(i) for the State of California" (September 21, 2007), available online at www.arb.ca.gov/planning/sip/2007sip/apr07draft/revappc.pdf. This is despite the fact that the best available information strongly suggests that transport of ozone air pollution from California is impacting parts of Nevada, particularly Clark County in the southern portion of the state, as well as other areas of the Western States.

[53] *Supra*. Note 6 at unnumbered page 14.

[54] *See* Exhibit 10, de Bruin, C., "Groups plan lawsuit against EPA," *Farmington Daily Times* (July 20, 2008), available online at http://www.daily-times.com/news/ci_9936942.

Clark County, Nevada indicated that the ozone from Los Angeles and Arizona is impacting the region.[55]

Finally, the modeling prepared for the WRAP strongly indicates that SIPs for the Western States are failing, or will fail, to comply with requirements of the CAA. Importantly, SIPs for these states are failing, or will fail, to comply with section 110(a) of the CAA, which requires that a SIP must provide for the "implementation, maintenance, and enforcement" of the 8-hour ozone NAAQS. At this point, SIPs for the Western States lack any provisions implementing, maintaining, and enforcing the 8-hour ozone NAAQS and it is unclear whether these SIPs will be revised appropriately and in a timely manner to remedy this failure.

For the aforementioned reasons, the EPA must call for the revision of SIPs for the Western States and we hereby petition the Administrator to make such a call.

V. JUSTIFICATION FOR THE ESTABLISHMENT OF AN INTERSTATE TRANSPORT REGION, INTERSTATE TRANSPORT COMMISSION

The Administrator has the authority to establish an interstate transport region "if the Administrator has reason to believe that the interstate transport of air pollutants from one or more States contributes significantly to a violation of a national ambient air quality standard in one or more other States[.]"[56] An interstate transport region should include "any State or portion of a State" that significantly contributes to a violation of the NAAQS in the transport region.[57]

Modeling prepared for the WRAP, as well as other analyses, strongly demonstrate that transport of ozone and ozone precursors is occurring among the Western States, both

[55] *See* Exhibit 11, Rogers, K, "Ozone pollution advisory issued: two-month warming is unprecedented," *Las Vegas Review-Journal* (June 11, 2008), available online at http://www.lvrj.com/news/19758274.html.

[56] *Supra*. Note 16.

[57] *Supra*. Note 17.

contributing to violations of the 8-hour ozone NAAQS and threatening to contribute to violations of the 8-hour ozone NAAQS within the Western States. Transport of air pollution has indeed been identified as a major problem in the Western States, and one that warrants action from the EPA. As the draft white paper prepared for the WRAP states, "Within the WRAP region, the ozone air quality problem is clearly a regional issue, as evidenced by regional CMAQ modeling results[.]"[58]

Furthermore, whenever an interstate transport region is established, the Administrator must also establish a transport commission.[59] A transport commission is charged with assessing the degree of transport, assessing strategies for combating interstate transport, and recommending such strategies to the Administrator.[60]

The best available information strongly indicates that it is reasonable to believe that the interstate transport of ozone and ozone precursors among all or portions of the Western States are contributing and will contribute significantly to a violation of the 8-hour ozone NAAQS within all or portions of the Western States. We therefore petition the Administrator to establish a Western States interstate transport region and establish an interstate transport commission to effectively address interstate transport of ozone and ozone precursors in the Western States.

CONCLUSION

The Western States are facing an unprecedented challenge in addressing the impacts of ozone air pollution. For the sake of public health, it is a challenge that must be met aggressively

[58] *Supra*. Note 6 at unnumbered pages 13-14.

[59] *Supra*. Note 19.

[60] *Supra*. Note 20.

and effectively. There are clear signs that ozone is a regional problem in the Western States. The EPA has a duty to address the regional nature of ozone by calling for the revision of SIPs and establishing an interstate transport region and interstate transport commission. This petition requests the Administrator respond to the best available scientific information and follow through with its responsibilities under the Clean Air Act to both clean up ozone air pollution in the Western States and to secure lasting protection of clean air throughout the region.

We request the EPA make a finding that SIPs for the Western States are substantially inadequate within 18 months of receiving this petition, thereby giving these states until 2013 to revise their SIPs. We further request the EPA establish an interstate transport region encompassing all or parts of the states of the Western States within 18 months of receiving this petition. This will ensure that the Western States can effectively address the requirements of section 110(a)(2)(D)(i) of the Clean Air Act in a timely and thorough manner.

Respectfully submitted this 23rd day of December, 2008.

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