

**ENVIROMENTAL PROTECTION AGENCY**

California State Motor Vehicle Pollution Control Standards: Notice of Decision Denying a  
Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year  
Greenhouse Gas Emission Standards for New Motor Vehicles

**AGENCY:** Environmental Protection Agency

**ACTION:** Notice

**SUMMARY:** Under section 209(b) of the Clean Air Act, as amended, 42 U.S.C. § 7543(b), the Environmental Protection Agency denies the California Air Resources Board's request for a waiver of the Clean Air Act's prohibition on adopting and enforcing its greenhouse gas emission standards as they affect 2009 and later model year new motor vehicles. This decision is based on the Administrator's finding that California does not need its greenhouse gas standards for new motor vehicles to meet compelling and extraordinary conditions.

**DATES:** Petitions for review must be filed by [INSERT DATE SIXTY DAYS AFTER FR PUBLICATION DATE OF THIS NOTICE].

**ADDRESSES:** EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2006-0173. All documents and public comments in the docket are listed on the

[www.regulations.gov](http://www.regulations.gov) website. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Air and Radiation Docket in the EPA Headquarters Library, EPA West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744. The Air and Radiation Docket and Information Center's website is <http://www.epa.gov/oar/docket.html>. The electronic mail (e-mail) address for the Air and Radiation Docket is: [a-and-r-Docket@epa.gov](mailto:a-and-r-Docket@epa.gov), the telephone number is (202)566-1742, and the Fax number is (202)566-9744.

**FOR FURTHER INFORMATION CONTACT:** Specific questions may be addressed to David Dickinson, Office of Transportation and Air Quality, Compliance and Innovative Strategies Division (6405J), EPA, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, telephone: (202) 343-9256, email: [dickinson.david@epa.gov](mailto:dickinson.david@epa.gov)

**SUPPLEMENTARY INFORMATION:**

**I. Finding** In this decision, I find that the California Air Resources Board's (CARB's) amendments to title 13, California Code of Regulations (CCR), sections 1900 and 1961, and a new section 1961 for its Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, relating to greenhouse gases (GHGs), are not needed to meet compelling and extraordinary conditions. While I recognize that global climate change is a serious challenge,<sup>1</sup> I have

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<sup>1</sup> This document does not reflect, and nothing in this document should be construed as reflecting, my judgment regarding whether emissions of GHGs from new motor vehicles or engines cause or contribute to air pollution "which may reasonably be anticipated to endanger public health or welfare," which is a separate question involving different statutory provisions and criteria; nor should it be construed as reflecting my judgment regarding any issue relevant to the determination of this question.

concluded that section 209(b) was intended to allow California to promulgate state standards applicable to emissions from new motor vehicles to address pollution problems that are local or regional. I do not believe section 209(b)(1)(B) was intended to allow California to promulgate state standards for emissions from new motor vehicles designed to address global climate change problems; nor, in the alternative, do I believe that the effects of climate change in California are compelling and extraordinary compared to the effects in the rest of the country. Based on this finding, pursuant to section 209(b)(1) of the Clean Air Act (Act), CARB's waiver request for its GHG standards for new motor vehicles must be denied. Because my finding regarding section 209(b)(1)(B) must, and is sufficient to, result in a denial of California's waiver request, it is unnecessary for me to determine whether the criteria for denial of a waiver under sections 209(b)(1)(A) and (C) have been met. I therefore will not address these criteria in this decision.

## **II. Background**

### **A. *California's GHG program for new motor vehicles***

California's GHG program for new motor vehicles is included as part of its second generation low-emission vehicle program known as LEV II. EPA previously issued a waiver for the LEV II program and also issued a waiver for CARB's zero-emission vehicle program (known as ZEV) through the 2011 model year. By Resolution 04-28 CARB approved the GHG program for motor vehicles on September 24, 2004 and California's Office of Administrative Law approved the regulations on September 15, 2005.

CARB's regulations and incorporated test procedures control certain greenhouse gas emissions from two categories of new motor vehicles – passenger cars and the lightest trucks (PC and LDT1) and heavier light-duty trucks and medium-duty passenger vehicles (LDT2 and

MDPV). The regulations add four new greenhouse gas air emissions (carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and hydrofluorocarbons (HFCs)) to California's existing regulations for criteria and criteria-precursor pollutants, along with air toxic contaminants. The regulations establish a declining fleet average emission standard for these gases, with separate standards for each of the two categories of passenger vehicles noted above. CARB sets the declining standards for manufacturers into two phases: near-term standards phased in from 2009 through 2012, and mid-term standards, phased in from 2013 through 2016.

*B. EPA's Consideration of CARB's Request*

By letter dated December 21, 2005, CARB submitted a request seeking a waiver of Section 209(a)'s prohibition for its GHG motor vehicle standards.<sup>2</sup> On February 21, 2007, EPA Acting Assistant Administrator for Air and Radiation Bill Wehrum notified the Executive Officer of CARB that the timing of EPA's consideration of the GHG waiver request was related to the then-pending *Massachusetts v. EPA* case before the United States Supreme Court. EPA believed that the decision and opinion in that case could potentially be relevant to issues EPA may address in the context of the GHG waiver proceeding. As stated in the February 21, 2007 letter EPA notified CARB's Executive Officer that it would proceed with the waiver request after the Supreme Court decision was issued.<sup>3</sup> The Supreme Court issued its decision for *Massachusetts v. EPA* on April 2, 2007, finding among other things that EPA has authority to

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2 Section 209(a) of the Act provides: No State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part. No State shall require certification, inspection or any other approval relating to the control of emissions from any new motor vehicle or new motor vehicle engine as condition precedent to the initial retail sale, titling (if any), or registration of such motor vehicle, motor vehicle engine, or equipment.

3 Docket entry EPA-HQ-OAR-2006-0173-0002.

regulate emissions of GHGs from new motor vehicles under section 202(a) of the Act, if in the Administrator's judgment such emissions cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare (549 U.S. \_\_\_, 127 S.Ct. 1438).

On April 30,2007, a Federal Register notice was published announcing an opportunity for hearing and comment on CARB's request, including a public hearing scheduled for May 22, 2007, in Washington, DC and a written comment period with a deadline of June 15, 2007.<sup>4</sup> On May 10, 2007, an additional Federal Register notice was published announcing an additional public hearing for May 30,2007, in Sacramento, CA with no change in the comment period deadline of June 15, 2007.<sup>5</sup> EPA subsequently conducted the two public hearings on May 22, 2007 and May 30,2007. The written comment period closed on June 15,2007.

On several occasions EPA received requests to extend or re-open the comment period; however the Agency did not extend the June 15,2007 deadline. The Agency did, however, indicate that consistent with past waiver practice, it would continue, as appropriate, to communicate with any stakeholders in the waiver process after the comment period ended and that it would continue to evaluate any comments submitted after the close of the comment period to the extent practicable.<sup>6</sup> By letter dated June 21, 2007, I informed Governor Schwarzenegger that I intended to make a decision on the state's request by the end of the year.<sup>7</sup> By letter dated December 19,2007 I notified Governor Schwarzenegger that EPA would be denying the waiver

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<sup>4</sup> 72 FR 21260 (April 30,2007).

<sup>5</sup> 72 FR 26626 (May 10,2007)

<sup>6</sup> EPA denied these requests by letters to the requestors on June 8, 2007 (see EPA-HQ-OAR-0173-1236, EPA-HQ-OAR-0173-1237, EPA-HQ-OAR-0173-1238, and EPA-HQ-OAR-0173-1239; by letter on August 17,2007 (see EPA-HQ-OAR-0173-3604); and by letters on November 6,2007 (see EPA-HQ-OAR-0173-3655, EPA-HQ-OAR-0173-3656, and EPA-HQ-OAR-0173-3657).

<sup>7</sup> Docket entry EPA-HQ-OAR-0173-5847.

and that I had instructed my staff to draft the appropriate documents setting forth the rationale for the denial in further detail.<sup>8</sup>

### III. Analysis of preemption under the Clean Air Act

#### A. Clean Air Act

Section 209(a) of the Act provides:

No State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part. No State shall require certification, inspection or any other approval relating to the control of emissions from any new motor vehicle or new motor vehicle engine as condition precedent to the initial retail sale, titling (if any), or registration of such motor vehicle, motor vehicle engine, or equipment.

Section 209(b)(1) of the Act requires the Administrator, after an opportunity for public hearing, to waive application of the prohibitions of section 209(a) for any State that has adopted standards (other than crankcase emission standards) for the control of emissions from new motor vehicles or new motor engines prior to March 30, 1966,<sup>9</sup> if the State determines that the State standards will be, in the aggregate, at least as protective of public health and welfare as

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<sup>8</sup> Docket entry EPA-HQ-OAR-0173-4702. This letter merely informed the Governor of California that EPA "will be denying the waiver" based on a finding that California does not have a "need to meet compelling and extraordinary conditions." As noted in the letter, EPA staff were instructed to draft the appropriate documents setting forth the rationale in further detail for why under this second criteria under the Clean Air Act the waiver would be denied. Both the intent and nature of the letter clearly reflect that the letter was not the Agency's final action and that EPA would be issuing a separate final decision (to be signed by the Administrator); therefore, today's decision is EPA's final decision on California's waiver request and represents the Agency's final agency action. The State of California has petitioned the United States Court of Appeals for the Ninth Circuit for review of EPA's December 19, 2007 communication based on its view that such communication was final agency action. (*See State of California v. United States Environmental Protection Agency*, No. 08-70011). As explained in EPA's Motion to Dismiss California's petition (and other joined petitions), the Agency's final agency action that is subject to judicial review is the final signed decision document – which is today's action. To the extent any court finds that the December 19, 2007 letter was final action, today's final decision supersedes and replaces the December 19, 2007 communication to California and reflects EPA's entire decision to deny the waiver.

<sup>9</sup> California is the only State which meets section 209(b)(1) eligibility criteria for obtaining waivers. *See e.g.*, S. Rep. No. 90-403, at 632 (1967).

applicable Federal standards. However, no such waiver shall be granted if the Administrator finds that: (A) the protectiveness determination of the State is arbitrary and capricious; (B) the State does not need such State standards to meet compelling and extraordinary conditions; or (C) such State standards and accompanying enforcement procedures are not consistent with section 202(a) of the Act.

#### B. Deference

CARE3 maintains that EPA's previous waiver practice of leaving decisions on ambiguous and controversial matters of public policy to California's judgment applies equally if not more so to policy considerations over the treatment of GHG emissions. It notes nothing in section 209(b) has changed the express Congressional intent for California to lead and experiment with cutting edge emission-reduction technologies and, just as California paved the way for advances in reducing criteria air pollutants, so does California's GHG regulation advance the reduction in climate-changing GHG emissions.

The Alliance of Automobile Manufacturers (the Alliance) discusses EPA's historical practice and its "highly deferential standard of review."<sup>10</sup> In its June 5, 2007 comments the Alliance sets out examples of EPA's deference toward California's regulations as demonstration of EPA's limited scope of review. However, the Alliance claims that CARB's GHG regulation has a qualitatively new objective of addressing global climate change. Because of this, the Alliance believes that EPA must make its own independent judgment, with no deference to California, on two questions arising under section 209(b)(1)(B) – specifically whether California needs its own state-specific regulations and whether California's particular regulations will actually address or meet the perceived need.

With respect to the deference due to California's policy judgments on the best way to protect the public health and welfare of its residents, EPA is not addressing or changing its traditional interpretation and practice concerning deference to California's judgment with respect to section 209(b)(1)(A) and (C). EPA's role in applying the second criterion is not to substitute its judgment for California's on the importance, value, or benefit for California that might be derived from a specific set of GHG standards and the related reductions, assuming it is otherwise appropriate for California to adopt its own GHG standards.

At the same time, as discussed below, EPA's interpretation of section 209(b)(1)(B) looks at the nature of GHGs as an air pollution problem, and in the alternative looks at the impacts of global climate change in California in comparison to the rest of the nation as a whole. Applying this interpretation to this waiver application calls for EPA to exercise its own judgment to determine whether the air pollution problem at issue – elevated concentrations of GHGs – is within the confines of state air pollution programs covered by section 209(b)(1)(B). EPA's evaluation relates to the limits of California's authority to regulate GHG emissions from new motor vehicles, not to the particular regulatory provisions that California wishes to enforce. California has its own views on this issue, but EPA does not believe it is required or appropriate to give deference to California of the statutory interpretation of the Clean Air Act, including the issue of the confines or limits of state authority established by section 209(b)(1)(B). This does not change EPA's consistent view that within such confines it should give deference to California's policy judgments, as it has in past in waiver decisions, on the mechanism used to address local and regional air pollution problems.

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<sup>10</sup> Docket Entry EPA-HQ-OAR-2006-0173-1519.1, at p. 3.

### C. Burden of Proof

In *Motor and Equip. Mfrs. Assoc. v. EPA*, 627 F.2d 1095 (D.C. Cir. 1979) (*MEMA I*), the U.S. Court of Appeals stated that the Administrator's role in a section 209 proceeding is to:

consider all evidence that passes the threshold test of materiality and . . . thereafter assess such material evidence against a standard of proof to determine whether the parties favoring a denial of the waiver have shown that the factual circumstances exist in which Congress intended a denial of the waiver.<sup>11</sup>

The court in *MEMA I* considered the standards of proof under section 209 for the two findings necessary to grant a waiver for an accompanying enforcement procedure (as opposed to the standards themselves): (1) protectiveness in the aggregate and (2) consistency with section 202(a). The court instructed that, "the standard of proof must take account of the nature of the risk of error involved in any given decision, and it therefore varies with the finding involved. We need not decide how this standard operates in every waiver decision."<sup>12</sup>

The court upheld the Administrator's position that, to deny a waiver, "there must be 'clear and compelling evidence' to show that proposed procedures undermine the protectiveness of California's standards."<sup>13</sup> The court noted that this standard of proof "also accords with the Congressional intent to provide California with the broadest possible discretion in setting regulations it finds protective of the public health and welfare."<sup>14</sup> With respect to the consistency finding, the court did not articulate a standard of proof applicable to all proceedings, but found that the opponents of the waiver were unable to meet their burden of proof even if the standard were a mere preponderance of the evidence.

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<sup>11</sup> *MEMA I*, 627 F.2d at 1122.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

Although *MEMA I* addressed enforcement procedures and did not explicitly consider the standards of proof under section 209 concerning a waiver request for standards, nothing in the opinion suggests that the court's analysis would not apply with equal force to such determinations. Both before and after *MEMA I*, EPA's past waiver decisions have consistently made clear that:

[E]ven in the two areas concededly reserved for Federal judgment by this legislation - the existence of 'compelling and extraordinary' conditions and whether the standards are technologically feasible - Congress intended that the standards of EPA review of the State decision to be a narrow one.<sup>15</sup>

Finally, opponents of the waiver bear the burden of showing that California's waiver request is inconsistent with section 202(a). As found in *MEMA I*, this obligation rests firmly with opponents of the waiver in a 209 proceeding, holding that: "[t]he language of the statute and its legislative history indicate that California's regulations, and California's determinations that they must comply with the statute, when presented to the Administrator are presumed to satisfy the waiver requirements and that the burden of proving otherwise is on whoever attacks them."<sup>16</sup>

The Administrator's burden, on the other hand, is to demonstrate that he has made a reasonable and fair evaluation of the information in the record in coming to the waiver request decision. As the court in *MEMA I* stated, "here, too, if the Administrator ignores evidence demonstrating that the waiver should not be granted, or if he seeks to overcome that evidence

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<sup>14</sup> *Id.*

<sup>15</sup> See, e.g., 40 FR.23102-103 (May 28, 1975).

<sup>16</sup> *MEMA I*, 627 F.2d at 1121.

with unsupported assumptions of his own, he runs the risk of having his waiver decision set aside as 'arbitrary and capricious.'"<sup>17</sup> Therefore, the Administrator's burden is to act "reasonably."<sup>18</sup>

#### IV. *Discussion*

##### A. *Sections 209(b)(1)(A) and (C)*

Under section 209(b) of the Clean Air Act, a waiver shall not be granted if the Administrator makes any one of the three findings in section 209(b)(1)(A), (B) and (C). As noted above and discussed in detail below, I **am** denying California's request for a waiver based on my finding that California does not need its motor vehicle GHG standards to meet compelling and extraordinary conditions. We received numerous comments regarding the criteria in sections 209(b)(1)(A) and (C). Because my finding regarding section 209(b)(1)(B) must, and is sufficient to, result in a denial of California's waiver request, it is unnecessary for me to determine whether the criteria for denial of a waiver under sections 209(b)(1)(A) and (C) have been met. I therefore will not address these criteria in this decision nor will I address the comments submitted regarding these criteria.

##### B. *Additional Issues Raised by EPA's Federal Register Notice*

In EPA's April 30, 2007 Federal Register Notice the Agency invited comment on three issues with regard to our review of this waiver request: (1) given that the regulations referenced in the December 21, 2005, request letter relate to global climate change, should that have any effect on EPA's evaluation of the criteria, and if so, in what manner?; (2) whether the United States Supreme Court decision in *Massachusetts v. EPA*, issued on April 2, 2007, regarding the regulation of emissions of greenhouse gases from new motor vehicles under Title II of the Clean

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<sup>17</sup> *Id.* at 1126.

Air Act is relevant to EPA's evaluation of the three criteria, and if so, in what manner?; and (3) whether the Energy Policy and Conservation Act (EPCA) fuel economy provisions are relevant to EPA's consideration of this petition or to CARB's authority to implement its vehicle GHG regulations?

With regard to the first two issues, the responses to the questions are generally subsumed into the discussion of section 209(b)(1)(B) below, to the extent they are relevant to my consideration of that criterion. With regard to the third issue, my decision is based solely on the statutory criteria in section 209(b) of the Act and this decision does not attempt to interpret or apply EPCA or any other statutory provision.<sup>19</sup>

*C. Does California Need Its GHG Standards to Meet Compelling and Extraordinary Conditions?*

1. It is Appropriate to Apply this Criterion to California's GHG Standards Separately, as Compared to California's Motor Vehicle Program as a Whole

Under section 209(b)(1)(B) of the Clean Air Act, the Administrator may not grant a waiver if he finds that the "State does not need such State standards to meet compelling and extraordinary conditions." California's submissions state that EPA has in the past recognized California's unique needs when reviewing waiver requests. California states that the relevant inquiry is whether California needs its own motor vehicle emissions control program to meet compelling and extraordinary conditions, not whether any given standard is needed to meet compelling and extraordinary conditions related to that air pollution problem. On the other hand,

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18 *Id.* at 1126.

19 EPA notes that there are two recent U.S. District Court decisions recognizing that California GHG standards are preempted under section 209(a) of the Clean Air Act. These cases do not address the issue of whether it is appropriate for EPA to grant a waiver under section 209(b) of the Clean Air Act, including the second criterion of section 209(b)(1), which is the subject of today's decision. *See Central Valley Chrysler-Jeep v. Goldstene*, 2007 WL

several commenters opposing the waiver suggest EPA's determination should be based on whether California needs its greenhouse gas standards in particular to meet compelling and extraordinary conditions, saying that a proposed set of standards must be linked to compelling and extraordinary conditions. These commenters suggest that the Act requires EPA to look at the particular "standards" at issue, not the program.

I find that it is appropriate to review whether California needs its GHG standards to meet compelling and extraordinary conditions separately from the need for the remainder of California's new motor vehicle program. I base this decision on the fact that California's GHG standards are designed to address global climate change problems that are different from the local pollution problems that California has addressed previously in its new motor vehicle program. The climate change problems are different in terms of the distribution of the pollutants and the effect of local factors, including the local effect of motor vehicle emissions as differentiated from other GHG emissions worldwide on the GHG concentrations in California.

This waiver decision represents the first instance of EPA applying the section 209(b)(1)(B) criterion to a California waiver request for a fundamentally global air pollution problem. Although EPA's review of this criterion has typically been cursory due to California needing its motor vehicle emission program due to fundamental factors leading to local and regional air pollution problems (as discussed below), it is appropriate in this case to carefully review the purpose of section 209(b)(1)(B) when applying it to the new circumstance of

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437878 (ED Cal Dec. 11, 2007); *Green Mountain Chrysler v. Crombie*, 508 F.Supp. 2<sup>nd</sup> 295 (D. Vt. 2007).

California's intent to regulate greenhouse gases. By doing so EPA gives meaning to Congress's decision to include this provision in section 209(b).<sup>20</sup>

*a. EPA Practice in Previous Waivers*

In past waivers that addressed local or regional air pollution, EPA has interpreted section 209(b)(1)(B) as looking at whether California needs a separate motor vehicle program to meet compelling and extraordinary conditions. Under this approach EPA does not look at whether the specific standards at issue are needed to meet compelling and extraordinary conditions related to that air pollutant. For example, EPA reviewed this issue in detail with regard to particulate matter in a 1984 waiver decision.<sup>21</sup> In that waiver proceeding, California argued that EPA is restricted to considering whether California needs its own motor vehicle program to meet compelling and extraordinary conditions, and not whether any given standard is necessary to meet such conditions. Opponents of the waiver in that proceeding argued that EPA was to consider whether California needed these PM standards to meet compelling and extraordinary conditions related to PM air pollution.

The Administrator agreed with California that it was appropriate to look at the program as a whole in determining compliance with section 209(b)(1)(B). One justification of the Administrator was that many of the concerns with regard to having separate state standards were based on the manufacturers' worries about having to meet more than one motor vehicle program in the country, but that once a separate California program was permitted, it should not be a greater administrative hindrance to have to meet further standards in California. The

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<sup>20</sup> See *United States v. Menashe*, 348 US 528, 538-39, 75 S.Ct. 513, 520 (1955) (courts must give effect to every word, clause, and sentence of a statute)

<sup>21</sup> See 49 FR 18887 (May 3, 1984).

Administrator also justified this decision by noting that the language of the statute referred to "such state standards," which referred back to the use of the same phrase in the criterion looking at the protectiveness of the standards in the aggregate. He also noted that the phrase referred to standards in the plural, not individual standards. He considered this interpretation to be consistent with the ability of California to have some standards that are less stringent than the federal standards, as long as, per section 209(b)(1)(A), in the aggregate its standards were at least as protective as the federal standards.

The Administrator further stated that in the legislative history of section 209, the phrase "compelling and extraordinary circumstances" refers to "certain general circumstances, unique to California, primarily responsible for causing its air pollution problem," like the numerous thermal inversions caused by its local geography and wind patterns. The Administrator also noted that Congress recognized "the presence and growth of California's vehicle population, whose emissions were thought to be responsible for ninety percent of the air pollution in certain parts of California."<sup>22</sup> EPA reasoned that the term compelling and extraordinary conditions "does not refer to the levels of pollution directly." Instead, the term refers primarily to the factors that tend to produce higher levels of pollution – "geographical and climatic conditions (like thermal inversions) that, when combined with large numbers and high concentrations of automobiles, create serious air pollution problems."

The Administrator summarized that the question to be addressed in the second criterion is whether these "fundamental conditions" (i.e. the geographical and climate conditions and large motor vehicle population) that cause air pollution continued to exist, not whether the air

pollution levels for PM were compelling and extraordinary, or the extent to which these specific PM standards will address the PM air pollution problem.

From this it can be seen that EPA's interpretation in the context of reviewing standards designed to address local or regional air pollution has looked at the local causes of the air pollution problems – geographic and climatic conditions that turn local emissions into air pollution problems, such as thermal inversions, combined with a large number of motor vehicles in California emitting in the aggregate large quantities of emissions. Under this interpretation, it is the common factors that cause or produce local or regional air pollution problems, and the particular contribution of local vehicles to such problems, that set California apart from other areas when Congress adopted this provision.

EPA's review of this criterion has usually been cursory and not in dispute, as the fundamental factors leading to air pollution problems – geography, local climate conditions (like thermal inversions), significance of the motor vehicle population – have not changed over time and over different local and regional air pollutants. These fundamental factors have applied similarly for all of California's air pollution problems that are local or regional in nature. California's circumstances of geography, climate, and motor vehicle population continue to show that it has compelling and extraordinary conditions leading to such local air pollution problems related to traditional pollutants.

To date, California's motor vehicle program has addressed air pollution problems that are generally local or regional in nature. The emission standards have been designed to reduce emissions coming from local vehicles, in circumstances where these local emissions lead to air

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22 Id. at 18890.

pollution in California that will affect directly the local population and environment in California. In that context, EPA's prior interpretation has been and continues to be a reasonable and appropriate interpretation of the second criterion, and EPA is not reconsidering or changing it here for local or regional air pollution problems. The narrow question in this waiver proceeding is whether this interpretation is appropriate when considering motor vehicle standards designed to address a global air pollution problem and its effects, as compared to a local or regional air pollution problem that has close causal ties to conditions in California.

*b. The Distinct Nature of Global Pollution as It Relates to Section 209(b)(1)(B)*

The air pollution problem at issue here is elevated atmospheric concentrations of greenhouse gases, and the concern is the impact these concentrations have on global climate change and the effect of global climate change on California. In contrast to local or regional air pollution problems, the atmospheric concentrations of these greenhouse gases is basically uniform across the globe, based on their long atmospheric life and the resulting mixing in the atmosphere. The factors looked at in the past – the geography and climate of California, and the large motor vehicle population in California, which were considered the fundamental causes of the air pollution levels found in California - no longer perform the same causal function. The atmospheric concentration of greenhouse gases in California is not affected by the geography and climate of California. The long duration of these gases in the atmosphere means they are well-mixed throughout the global atmosphere, such that their concentrations over California and the U.S. are, for all practical purposes, the same as the global average. The number of motor vehicles in California, while still a notable percentage of the national total and still a notable source of GHG emissions in the State, bears no more relation to the levels of greenhouse gases in

the atmosphere over California than any other comparable source or group of sources of greenhouse gases anywhere in the world. Emissions of greenhouses gases from California cars do not generally remain confined within California's local environment but instead become one part of the global pool of GHG emissions, with this global pool of emissions leading to a relatively homogenous concentration of greenhouse gases over the globe. Thus, the emissions of motor vehicles in California do not affect California's air pollution problem in any way different from emissions from vehicles and other pollution sources all around the world. Similarly, the emissions from California's cars do not just affect the atmosphere in California, but in fact become one part of the global pool of GHG emissions that affect the atmosphere globally and are distributed throughout the world, resulting in basically a uniform global atmospheric concentration.

Given the different, and global, nature of the pollution at issue, it is reasonable to find that the conceptual basis underlying the practice of considering California's motor vehicle program as a whole does not apply with respect to elevated atmospheric concentrations of GHGs. Therefore EPA has considered whether it is appropriate to apply this criterion in a different manner for this kind of air pollution problem; that is, a global air pollution problem. EPA continues to believe that it is appropriate to apply its historical practice to air pollution problems that are local or regional in nature, and is not suggesting the need to change such interpretation. The only question addressed is whether it is appropriate to employ a different practice to the very different circumstances present for this global air pollution problem.

*c. Analysis of the Text and History of Section 209(b)(1)(B)*

The text of section 209(b)(1)(B) does not limit EPA to its previous practice as the language of the statute is ambiguous on this point.<sup>23</sup> The second criterion refers to the need for "such State standards." While it is clear that this language refers at least to all of the standards that are the subject of the particular waiver proceeding before the Administrator, it could reasonably be considered as referring either to the standards in the entire California program, the program for similar vehicles, or the particular standards for which California is requesting a waiver under the pending request.<sup>24</sup>

The 1984 PM waiver referred to the need for consistency with the "in the aggregate" finding, where Congress explicitly allowed California to adopt some standards that are less stringent than federal standards. This provision was specifically aimed at allowing California to adopt less stringent CO standards at a time when California wanted to adopt NOx standards that were tighter than the federal NOx standards, to address ozone problems. California judged that a relaxed CO standard would facilitate the technological feasibility of the desired more stringent NOx standards. EPA noted that it would be inconsistent for Congress to allow EPA to look at each air pollutant separately for purposes of determining compelling and extraordinary conditions for that air pollution problem, and at the same time allow California to adopt standards for an air pollutant that were less stringent than the federal standards. While EPA continues to believe, for

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23 I note that because the statute is not clear with respect to the interpretation of this paragraph, my decision is entitled to deference and should be upheld as long as it is a permissible construction of the statute. *Chevron v. NRDC*, 467 U.S. 837,843, 104 S.Ct. 2778,2782 (1984). See *Engine Manufacturers Ass'n v. EPA*, 88 F.3d 1075, 1084 (DC Cir. 1996) ("the court need only find that the EPA's understanding of ... [the] statute is a sufficiently rational one to preclude a court from substituting its judgment for that of E P A [internal quotes and citations omitted]).

24 As noted above, EPA's 1984 waiver justified its review of California's program as a whole in part on the fact that section 209(b)(1)(B) referred to "standards" in the plural, rather than the singular. However, the fact that "standards" is plural does not in and of itself determine what set of standards is being reviewed, since many waiver requests encompass a set of standards, rather than a single standard. EPA notes that the words "in the aggregate" are

local or regional air pollution problems, that it is appropriate to look at California's program as a whole under the second criterion, allowing less stringent standards for some pollutants does not by itself mandate that this is the only possible interpretation of this criterion, especially when a global pollutant is at issue. For example, it is not implausible to think that even if EPA traditionally were to look at air pollution problems separately under the second criterion, EPA could readily determine that the less stringent CO standards should be considered with respect to the ozone problem when evaluating compelling and extraordinary conditions, not the CO problem, as ozone control was the purpose of the less stringent CO standard.<sup>25</sup>

The legislative history for section 209 also supports EPA's decision to examine the second criterion specifically in the context of global climate change. It indicates that Congress was moved to allow waivers of preemption for California motor vehicle standards based on the particular effects of local conditions in California on the air pollution problems in California. Congress discussed "the unique problems faced in California as a result of its climate and topography." H.R. Rep. No. 728, 90<sup>th</sup> Cong. 1<sup>st</sup> Sess., at 21 (1967). See also Statement of Cong. Holifield (CA), 113 Cong. Rec. 30942-43 (1967). Congress also noted the large effect of local vehicle pollution on such local problems. See, e.g., Statement of Cong. Bell (CA) 113 Cong. Rec. 30946. In particular, Congress focused on California's smog problem, which is especially affected by local conditions and local pollution. See Statement of Cong. Smith (CA) 113 Cong. Rec. 30940-41 (1967); Statement of Cong. Holifield (CA), *id.* at 30942. See also, *MEMA I*, 627 F. 2d 1095, 1109 (D.C. Cir., 1979) (noting the discussion of California's "peculiar local

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not found in section 209(b)(1)(B).

<sup>25</sup> See "Waiver for Standards for Model Year 1979 and later Passenger Cars, Certification Procedures and High Altitude Regulations" at 43 FR 25729 (June 14, 1978).

conditions" in the legislative history). Congress did not justify this provision based on pollution problems of a more national or global nature in justifying this provision.<sup>26</sup>

*d. It is Appropriate to Apply Section 209(b)(1)(B) Separately to GHG Standards*

EPA believes that in the context of reviewing California GHG standards designed to address global climate change, it is appropriate to apply the second criterion separately for GHG standards. For this waiver proceeding EPA will not look at whether California continues to need its separate motor vehicle program in general to meet compelling and extraordinary conditions, as the core factors underlying that interpretation, which are related to local conditions, do not apply to the circumstances of this global air pollution problem.

The intent of Congress, in enacting section 209(b) and in particular Congress's decision to have a separate section 209(b)(1)(B), was to require EPA to specifically review whether California continues to have compelling and extraordinary conditions and the need for state standards to address those conditions. Thus I believe it is appropriate to review California's GHG standards separately from the remainder of its motor vehicle emission control program for purposes of section 209(b)(1)(B).<sup>27</sup>

In this context it is appropriate to give meaning to this criterion by looking at whether the emissions from California motor vehicles, as well as the local climate and topography in California, are the fundamental causal factors for the air pollution problem – elevated

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<sup>26</sup> In reference to another argument made in the 1984 waiver, while the administrative costs of a program may not increase significantly based on the addition of new standards, there is still cost in the implementation of new standards, particularly in terms of changes in design necessitated by the new standards. In any case, this issue does not appear to be particularly relevant to the issue of whether California needs its standards to meet compelling and extraordinary conditions.

<sup>27</sup>, I note that this does not represent a change in EPA practice regarding its previous waiver decisions, which addressed California standards designed to address local or regional pollution.

concentrations of greenhouse gases - apart from the other parts of California's motor vehicle program, which are intended to remediate different air pollution concerns. In the alternative, EPA has also considered the effects in California of this global air pollution problem in California in comparison to the rest of the country, again addressing the GHG standards separately from the rest of California's motor vehicle program. While the atmospheric concentrations of GHGs may be basically uniform around the globe, and GHG emissions distributed globally, EPA has considered whether the potential impact of climate change resulting from these concentrations will differ across geographic areas and if so whether the effects in California amount to compelling and extraordinary conditions. These alternative approaches are consistent with the text of the provision, and give it a meaning relevant to the air pollution circumstances at issue.

The appropriate criteria to apply therefore is whether the emissions of California motor vehicles, as well as California's local climate and topography, are the fundamental causal factors for the air pollution problem of elevated concentrations of greenhouse gases, and in the alternative whether the effect in California of this global air pollution problem amounts to compelling and extraordinary conditions.

## 2. Relationship of California Motor Vehicles, Climate, and Topography to Elevated Concentrations of Greenhouse Gases in California

I recognize that Congress' purpose in establishing the prohibition in section 209(a) and the waiver in 209(b) was to balance the benefit of allowing California significant discretion in deciding how to protect the health and welfare of its population, and that part of that benefit is allowing California to act as a laboratory for potential federal motor vehicle controls, with the

burden imposed on the manufacturers of being subject to two separate motor vehicle programs. S. Rep. No. 403, 90<sup>th</sup> Cong. 1<sup>st</sup> Sess., at 32-33 (1967). It is clear that Congress intended this balance to be premised on a situation where California needs the state standards to meet compelling and extraordinary conditions. Thus, if I find that California does not need its state GHG standards to meet compelling and extraordinary conditions, it would not be appropriate to grant a waiver of preemption for California's state requirements.

Commenters opposed to EPA granting the waiver commented that California should be denied the waiver because separate state GHG standards are not needed to meet compelling and extraordinary conditions because there is no link between motor vehicle emissions in California and any alleged extraordinary conditions in California. These commenters state that while California spends a great deal of time discussing the effects of climate change in California (discussed below), California does not link these emission standards with such effects. They note that GHGs are not localized pollutants that can affect California's local climate or which are problematic due to California's specific topography. Instead, emissions from vehicles in California become mixed with the global emissions of GHG and affect global climate (including California's climate) in the same way that any GHG from around the world affect global (and California) climate conditions. They claim that Congress authorized EPA to grant a waiver of preemption only in cases where California standards were necessary to address peculiar local air quality problems. They claim that there can be no need for separate California standards if the standards are not aimed at, and do not redress, a California-specific problem.

California and others supporting the waiver counter that the reductions in GHG emissions from the standards are needed to reduce future impacts of climate change.

In previous waiver decisions, EPA was asked to waive preemption of standards regulating emissions that were local or regional in effect. Local air pollution problems are affected directly by local conditions in California, largely the emissions from motor vehicles in California in the context of the local climate and topography. As a result state standards regulating such local motor vehicle emissions will have a direct effect on the concentration of pollutants directly affecting California's environment. They are effective mechanisms to reduce the levels of local air pollution in California because local conditions are the primary cause of that kind of air pollution problem. In addition, reductions in emissions from motor vehicles that occur elsewhere in the United States will not have the same impact, and often will have no impact, on reducing the levels of local air pollution in California.

By contrast, GHGs emitted by California motor vehicles become part of the global pool of GHG emissions that affect concentrations of GHGs on a uniform basis throughout the world. The local climate and topography in California have no significant impact on the long-term atmospheric concentrations of greenhouse gases in California. Greenhouse gas emissions from vehicles or other pollution sources in other parts of the country and the world will have as much effect on California's environment as emissions from California vehicles. As a result, reducing emissions of GHGs from motor vehicles in California has the same impact or effect on atmospheric concentrations of GHGs as reducing emissions of GHGs from motor vehicles or other sources elsewhere in the US, or reducing emissions of GHGs from other sources anywhere in the world. California's motor vehicle standards for GHG emissions do not affect just California's concentration of GHGs, but affect such concentrations globally, in ways unrelated to the particular topography in California. Similarly, emissions from other parts of the world affect

the global concentrations of GHGs, and therefore concentrations in California, in exactly the same manner as emissions from California's motor vehicles.

In Section IV.C.1, the previous section, EPA discussed the reasons for concluding that it is appropriate to look at California's GHGs standards separately, as compared to looking at its need for a motor vehicle program in general. These reasons also lead to the conclusion that California does not need these GHG standards to meet compelling and extraordinary conditions, without the need to compare impacts in California with impacts in the rest of the nation. The legislative history indicates that Congress' intent in the second criterion was to allow California to adopt new motor vehicle standards because of compelling and extraordinary conditions in California that were causally related to local or regional air pollution levels in California. These factors – climate, topography, large population of motor vehicles – cause these kinds of local or regional air pollution levels in California and because of this causal link, California's motor vehicle standards can be effective mechanisms to address these local problems. Reductions outside California would not be expected to be as effective as reductions from California's state motor vehicle standards in addressing California's local or regional air pollution problems, as there is not such a causal link between emissions outside California and local or regional air quality conditions inside California.

Some have argued that the decision of the Supreme Court in *Massachusetts v. EPA*, which determined that EPA has authority to regulate GHGs under section 202(a) of the Act, if EPA makes certain findings, requires that EPA grant a waiver of preemption under section 209(b). However, this argument does not address a critical difference between sections 202(a) and 209(b). Section 202(a) requires EPA to promulgate "standards applicable to the emission of

any air pollutant from any class or classes of new motor vehicle... which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," without regard to the local, regional or national nature of the conditions. However, section 209(b)(1)(B) explicitly requires EPA to review whether California needs its state standards to meet compelling and extraordinary conditions. I believe that section 209(b) was intended to allow California to promulgate state standards applicable to emissions from new motor vehicles to address pollution problems that are local or regional. I believe that the inclusion of section 209(b)(1)(B) indicated Congress's desire not to allow waiver of preemption for California standards to reduce emissions related to global air pollution problems, as compared to local or regional air pollution. Section 209(b) was a compromise measure that allowed disruption of the introduction of new motor vehicles into interstate commerce by allowing California to have its own motor vehicle program, but limited this to situations where the air pollution problems have their basic cause, and therefore their solution, locally in California.<sup>28</sup> Congress allowed California to promulgate its own new motor vehicle standards based in part on the fact that California motor vehicles were such a large part of the local air pollution problem in California, see, e.g., Statement of Cong. Bell (CA) 113 Cong. Rec. 30946 and "the unique problems faced in California as a result of its climate and topography." H.R. Rep. No. 728, 90<sup>th</sup> Cong. 1<sup>st</sup> Sess., at 21 (1967). California's ability to address these local or regional air pollution problems through local measures that reduce emissions of pollutants that directly affect California's own local environment, and the effectiveness of such measures to deliver emission

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<sup>28</sup> See S. Rep. No 403, 90<sup>th</sup> Cong. 1<sup>st</sup> Sess., at 32-33 (1967).

reductions in the area that needs it, was the basis for allowing California the authority, unique among the states, to promulgate such state standards.

In contrast, Congress did not indicate any particular desire to allow California to promulgate local standards to deal with global air pollution like atmospheric concentrations of GHGs. California comments on the need for reductions in GHG atmospheric concentrations and therefore emissions, but the issue is not whether such reductions are needed but whether Congress intended them to be effectuated on a state basis by California through its new motor vehicle program. This type of pollution seems ill-fitted to Congress's intent to provide California with a method of handling its local air pollution concentrations and related problems with local emission control measures. I believe that standards regulating emissions of global pollutants like greenhouse gases were not part of the compromise envisioned by Congress in passing section 209(b).

California argues that increased temperatures associated with climate change would increase ozone levels in California, and that EPA has long recognized that California has compelling and extraordinary conditions concerning ozone, and therefore the waiver should be granted based on the impact of climate change on ozone levels. However, as discussed above, in specifying the need for standards to meet compelling and extraordinary conditions Congress had in mind the causal factors of local or regional air pollution problems, not the level of the air pollution per se. GHG emissions from California cars are not a causal factor for local ozone levels any more than GHG emissions from any other source of GHG emissions in the world. It is not the impact on ozone levels that is the key question, but the nature of the causal factors. The second criterion identifies local and regional air pollution problems where the causal factors are

local to California, and therefore local controls will be effective and controls outside the state would not be as effective. While climate change may impact levels of ozone in California, this does not change the fact that the factors causing elevated concentrations of greenhouse gases are not solely local to California. This is in contrast to the kinds of motor vehicle emissions normally associated with ozone levels, such as VOCs and NO<sub>x</sub>, and the local climate and topography that in the past have lead to the conclusion that California has the need for state standards to meet these kinds of compelling and extraordinary conditions.

California also claims that the GHG standards are needed to meet "compelling and extraordinary conditions" because the net impact of upstream emission reductions of ozone precursors from reduced fuel throughput (including a reduction of emissions from refineries in California) helps to reduce California ozone levels. However, without taking a position on whether or to what extent such reductions would occur, any such reduction in local stationary source emissions would not be reductions in the emissions of ozone precursors from motor vehicles, but instead are indirect reductions caused by the expected actions of stationary sources. The second criterion in section 209(b)(1)(B) focuses on the need to control emissions from new motor vehicles because of the impact of motor vehicle emissions on local or regional air pollution problems, not on the need to indirectly control stationary source emissions through motor vehicle standards. California has independent authority to directly regulate stationary sources in the State. Therefore, California cannot rely on the emission reductions from stationary sources in the State as the justification for satisfying the waiver criterion under section 209(b)(1)(B). This waiver decision does not affect California's ability to reduce emissions of ozone precursors from stationary sources directly in California. This analysis of section

209(b)(1)(B) is separate and distinct from the analysis of whether any reduction from indirect sources is relevant under the "protectiveness" criterion of section 209(b)(1)(A).

Given that Congress enacted section 209(b) to provide California with a unique ability to receive a waiver of preemption, which provides California with authority that it would not otherwise have under section 209, and given the specific language in section 209(b)(2) pointing out the need for extraordinary and compelling conditions as a condition for the waiver, I believe that it is not appropriate to waive preemption for California's standards to regulate GHGs. Atmospheric concentrations of greenhouse gases are an air pollution problem that is global in nature, and this air pollution problem does not bear the same causal link to factors local to California as do local or regional air pollution problems. I believe that atmospheric concentrations of GHGs are not the kind of local or regional air pollution problem Congress intended to identify in the second criterion of section 209(b)(2). As such I find that California does not need its GHG standards to meet compelling and extraordinary conditions.

### 3. Relationship of Impacts of Global Climate Change in California to the Rest of the Country

As noted above, in section IV. C. 1., as an alternative to the approach discussed in section IV. C. 2, EPA has also considered the effects of this global air pollutant problem in California in comparison to the rest of the country.<sup>29</sup> While the air pollution concentrations may be relatively uniform around the globe, and GHG emissions distributed globally, EPA has considered whether the potential impact of climate change resulting from these emissions and concentrations will

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<sup>29</sup> The review in this section is independent of the analysis in the previous section. That analysis is sufficient to deny the waiver request. This analysis provides an independent reason for denial.

differ across geographic areas and if so whether the likely effects in California amount to compelling and extraordinary conditions.

In determining whether the effect in California is compelling and extraordinary, guidance can be found in the legislative history, which speaks of California demonstrating "compelling and extraordinary circumstances sufficiently different from the nation as a whole to justify standards on automobile emissions which may, from time to time, need to be more stringent than national standards." S. Rep. No. 403, 90<sup>th</sup> Cong. 1<sup>st</sup> Sess., at 32 (1967). The history refers to California's "peculiar local conditions" and "unique problems." *Id.* This indicates a Congressional intent that there be particular circumstances in California sufficiently different from the nation as a whole that justify separate standards in California. Therefore the criterion to apply is whether the effects in California from elevated concentrations of GHGs and any resulting climate change are different enough from the rest of the nation as a whole that California should be considered to have compelling and extraordinary conditions under section 209(b)(1)(B).

In its waiver request CARB restates its need for its own engine and vehicles programs to meet serious air pollution problems. CARB states that climate change threatens California's public health, water resources, agricultural industry, ecology, and economy. Direct health impacts due to climate change that CARB cites include extreme events, such as heat waves, droughts, increased fire frequency, and increased storm intensity. CARB also notes that air quality impacts, such as increases in ground-level ozone due to higher temperatures, will cause secondary health effects. CARB's waiver request also anticipates that manufacturers may argue that California's position vis-a-vis other states regarding climate change impacts is not

"extraordinary." In addition to stating that this claim is not legally pertinent to EPA's review of California's continuing need for its own "motor vehicle program," CARB also notes that both the Assembly Bill 1493 (Chap. 200, Stats, 2002 (Pavley)) and the CARB Board Resolution 04-28 (September 23,2004) recognize that global warming would impose compelling and extraordinary impacts such as those noted above.

EPA also received comment from CARB and others supporting the waiver stating that California faces unique and compelling geographical and population issues in their state, which have not changed since Congress and EPA originally recognized California's need to establish separate vehicle standards. According to the comments, along with exacerbating ozone impacts and increasing wildfires, there are a number of other compelling and extraordinary circumstances in California that justify the passage of GHG emission standards, including: declining snowpack and early snowmelt and resultant impacts on water storage and release, sea level rise, salt water intrusion, and adverse impacts to agriculture (e.g., declining yields, increased pests, etc.), forests, and wildlife. During EPA's two public hearings and in written submissions to the docket many commenters provided additional discussion regarding the variety and severity of adverse impacts of GHG emissions and global warming on the environment. In addition, some commenters specifically point to a direct threat to public health (e.g., asthma) since increased temperatures due to increased GHG emissions will lead to increased levels of ozone and other pollutants. Some commenters also assert that there is nothing in section 209(b)(1)(B) of the CAA that limits the "extraordinary and compelling conditions" that should be considered to those associated with smog, and that as a result, California should be able to consider these additional conditions.

EPA also received comments suggesting that in order for California's conditions to be "extraordinary" they need not be worse or unique among states. CARB points out, in reference to the 1984 PM waiver, California's conditions need not be worse or unique among States because if that were the case only California could be setting its own standards for specific California purposes. These commenters suggest in addition that, in any case, conditions are indeed worse in California. CARB points to the testimony of Dr. Stephen Schneider of Stanford University and others to demonstrate that not only are California's conditions "unique and arguably more severe" (e.g. temperature impacts from global warming are more certain for Western states like California) but also that no other state faces the combination of ozone exacerbation, wildfire emission's contribution, water system and coastal system impacts and other impacts faced by California.

On the other hand, several commenters opposed to granting the waiver state that global warming is not a compelling and extraordinary condition specific to California. They assert that the "extraordinary" aspect of section 209(b)(1)(B) embodies a concept of uniqueness and to date, EPA has granted waivers for California to address the issue of localized urban air pollution caused by criteria and other health-related pollutants. In its interpretation of the term "compelling and extraordinary conditions" CARB describes a number of potential impacts to tourism, public health, water resources, agriculture, ecology, wildfires, droughts, heat waves, flooding, and other adverse effects, many of which, according to some commenters, could also be claimed by other States as resulting from climate change. The commenters state that CARB has not demonstrated that the negative impacts it would face from global climate change are "extraordinary" as compared to other States in the nation. Even though California can claim that it is more susceptible to some kinds of

risks because it is a coastal state, that does not differentiate California from other coastal states, of which there are many. According to commenters, the level of significance implied by the structure of the Act, as set against constitutional principles, requires that California face truly unique circumstances. The Alliance states that California has not satisfied the requirement under section 209(b)(1)(B) because, apart from the arguments discussed in section IV.C.2 above, California has not pointed to an effect that is not widely shared and sufficiently unique with respect to the nature or degree of the effect to be experienced. In addition, several commenters that supported the waiver, in particular commenters representing states and localities other than California, commented that global climate change would also have a substantial effect on areas other than California.<sup>30</sup> These comments may tend to indicate that the effects of global climate change in California are not extraordinary compared to the rest of the country.<sup>31</sup>

In order to assess such comments and the arguments made both in favor and against a determination that California faces extraordinary and compelling conditions, the following section discusses the atmospheric effect of GHG emissions, observed and projected climate change, the

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30 EPA received comment during its public hearings and written comment period from representatives from several states, including: New Jersey, Rhode Island, Maryland, Illinois, Maine, Pennsylvania, Massachusetts, New York, New Mexico, Oregon, Illinois, Connecticut, Vermont, and Florida. Many of these comments note studies or concerns where specific and critical risks or vulnerabilities are identified (e.g., coastal flooding and erosion, increased temperatures, frequent and intense storms, aging populations vulnerable to intensities in weather systems, vector-borne diseases, etc.)

31 EPA received comment from the Western Environmental Law Center (EPA-HQ-OAR-0173-1404.1), among others, suggesting that although many states have submitted comment outlining the challenges and impacts that they face as a result of climate change this nevertheless does not undermine the fact that California faces compelling and extraordinary conditions. The Western Environmental Law Center notes "Moreover, as California has noted, the state "is particularly vulnerable" to climate change impacts, including, in its Bay-Delta area, "to saltwater intrusion from sea-level rise, levee collapse, and flooding, any of which would severely tax California's increasingly fragile water-supply system.... The state notes, as well, that "[t]he predicted decrease in winter snow pack would exacerbate these impacts by reducing spring and summer snowmelt runoff critical for municipal and agricultural uses, a situation further strained by fish and wildlife considerations. Also, of course, California's high ozone levels – clearly a condition Congress considered – will be exacerbated by higher temperatures from global warming."

context within which climate change impacts may occur, and the projected risks and impacts associated with climate change, both in California and nationally.

*a. Atmospheric Effect of Greenhouse Gases and Their Atmospheric Concentrations*

It is widely recognized that greenhouse gases have a climatic warming effect by trapping heat in the atmosphere that would otherwise escape to space.<sup>32</sup> Greenhouse gases, once emitted, can remain in the atmosphere for decades to centuries, meaning that their concentrations become well-mixed throughout the global atmosphere regardless of emission origin. Therefore, the concentrations of the six primary GHGs directly emitted by human activities (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>) over the U.S. and California are, for all practical purposes, the same as the global average. In contrast, the concentrations of more "traditional" pollutants, such as tropospheric ozone, are more variable over space and time due to their much shorter atmospheric lifetimes (e.g., days to weeks) compared to GHGs.<sup>33</sup>

The global atmospheric CO<sub>2</sub> concentration has increased about 35% from pre-industrial levels to 2005, and almost all of the increase is due to anthropogenic (i.e., man-made) emissions.<sup>34</sup> The global atmospheric concentration of CH<sub>4</sub> has increased by 148% from pre-industrial levels; and the N<sub>2</sub>O concentration has increased 18%. The observed concentration increase in these gases can also be attributed primarily to anthropogenic emissions. The industrial fluorinated gases, HFCs,

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32 See <http://www.epa.gov/climatechange/science/stateofknowledge.html>

33 Forster, P. et al. (2007) Changes in Atmospheric Constituents and in Radiative Forcing. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

34 IPCC (2007) Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

PFCs, and SF<sub>6</sub>, have relatively low atmospheric concentrations but are increasing rapidly; these gases are entirely anthropogenic in origin.<sup>35</sup>

*b. Observed Global, U.S. and California Climate Change*

*i. Global temperature*

According to the most recent reports of the International Panel on Climate Change, warming of the climate system is unequivocal and is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.<sup>36</sup> Global mean surface temperatures have risen by 0.74°C (1.3°F) over the last 100 years. The rate of warming over the last 50 years is almost double that over the last 100 years. Global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries.<sup>37</sup> Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations.<sup>38</sup> Climate model simulations suggest natural forcings alone (e.g., changes in solar irradiance) cannot explain the observed warming. Likewise, North America's observed temperatures over the last century can only be reproduced using model simulations containing both natural and anthropogenic forcings.<sup>39</sup>

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35 Id.

36 Id.

37 Id.

38 Id.

39 Id.

Widespread changes in extreme temperatures have been observed in the last 50 years across all world regions including the U.S. Cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.<sup>40</sup>

*ii. U.S. and California temperatures*

U.S. temperatures also warmed during the 20<sup>th</sup> century and into the 21<sup>st</sup> century. U.S. temperatures are now approximately 1.0°F warmer than at the start of the 20th century, with an increased rate of warming over the past 30 years. The Southeast experienced a very slight cooling trend over the entire period (-0.04°F per century), but shows warming since 1979. California itself has experienced a warming trend of 2.3°F over the period 1901 to 2005,<sup>41</sup> while the greatest temperature increase occurred in Alaska (3.3°F per century).

*iii. U.S. and California Precipitation*

Data show that over the contiguous U.S., total annual precipitation increased at an average rate of 6% per century from 1901-2005.<sup>42</sup> The greatest increases in precipitation were in the East North Central climate region (12% per century) and the South (11%). Precipitation in the Northeast increased by 7%, in the Southeast by 3%, the Central U.S. by 8%, the West North Central by 3%, the Southwest by 1%, the West by 9%, and the Northwest by 5%. Precipitation trends for the state of California alone are not as clear as the increased temperature trends.<sup>43</sup>

*iv. Global and U.S. Sea Level Rise*

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40 *Id.*

41 Data obtained from: <http://www.ncdc.noaa.gov/oa/climate/research/ushcn/ushcn.html>

42 Data obtained from: <http://www.ncdc.noaa.gov/oa/climate/research/ushcn/ushcn.html>

43 California Energy Commission (2005) *Climate Change Impacts and Adaptation in California*. CEC-500-2005-103-SD.

There is strong evidence that global sea level gradually rose in the 20th century and is currently rising at an increased rate. The total 20<sup>th</sup> century global sea level rise is estimated to be 6.7 ± 2 inches (0.17 ± 0.05 m).<sup>44</sup> Nearly all of the Atlantic Ocean shows sea level rise during the past decade with the rate of rise reaching a maximum (over 0.08 inches or 2 mm per year) in a band along the U.S. east coast. Sea level<sup>45</sup> has been rising 0.08-0.12 inches per year (2.0-3.0 mm per year) along most of the U.S. Atlantic and Gulf coasts. The rate of sea level rise varies from about 0.36 inches per year (10 mm per year) along the Louisiana Coast (due to land sinking), to a drop of a few inches per decade in parts of Alaska (because land is rising).

Historical trends along the California coast, quantified from a small set of California tide gauges, have approached 0.08 inches per year (2 mm per year), which are rates very similar to those estimated for global mean sea level.<sup>46</sup> On average this is generally less than or equal to the rate of sea level rise elsewhere in the US.

### *c. Projected Climate Change*

#### *i. Global context*

The majority of future reference-case scenarios (assuming no explicit GHG mitigation actions beyond those already enacted) project an increase of global GHG emissions over the century, with climbing GHG concentrations and rising net positive radiative forcing. Carbon dioxide is expected

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44 Bindoff, N.L. et al. (2007) Observations: Oceanic Climate Change and Sea Level. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

45 U.S. sea level data obtained from the Permanent Service for Mean Sea Level <<http://www.pol.ac.uk/psmsl/>> of the Proudman Oceanographic Laboratory.

46 California Climate Change Center (2006) *Scenarios of Climate Change in California: An Overview*. CEC-500-2005-186-SF.

to remain the dominant anthropogenic GHG over the course of the 21<sup>st</sup> century. The radiative forcing associated with the non-CO<sub>2</sub> GHGs is still significant and growing over time.<sup>47</sup>

Through about 2030, projections for the global warming rate are affected little by different scenario assumptions or different model sensitivities.<sup>48</sup> By mid-century, the choice of scenario becomes more important for the magnitude of the projected warming; about a third of that warming is projected to be due to climate change that is already committed. By the end of the century, projected average global warming (compared to average temperature around 1990) varies significantly by emissions scenario, ranging from 1.8 to 4.0°C (3.2 to 7.2°F), with an uncertainty range of 1.1 to 6.4°C (2.0 to 11.5°F), according to the IPCC.<sup>49</sup>

By the end of the century, globally averaged sea level is projected to rise between 0.18 and 0.59 meters relative to around 1990.<sup>50</sup> These numbers represent the lowest and highest projections of the 5 to 95% ranges for all scenarios considered collectively and include neither uncertainty in carbon cycle feedbacks nor rapid dynamical changes in ice sheet flow. In all scenarios, the average rate of sea level rise during the 21<sup>st</sup> century very likely exceeds the 1961 to 2003 average rate (1.8 ± 0.5 mm per year).<sup>51</sup>

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47 CCSP (2007) Scenarios of Greenhouse Gas Emissions and Atmospheric Concentrations (Part A) and Review of Integrated Scenario Development and Application (Part B). A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Clarke, L., J. Edmonds, J. Jacoby, H. Pitcher, J. Reilly, R. Richels, E. Parson, V. Burkett, K. Fisher-Vanden, D. Keith, L. Mearns, H. Pitcher, C. Rosenzweig, M. Webster (Authors)]. Department of Energy, Office of Biological & Environmental Research, Washington, DC., USA, 260 pp. See also, IPCC (2000) *Special Report on Emissions Scenarios. A Special Report of Working Group III of the Intergovernmental Panel on Climate Change* [N. Nakicenovic et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

48 IPCC (2007) Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

49 Id.

50 Id.

51 Id.

ii. *U.S. projections for temperature, precipitation and sea level rise*

All of the U.S. is very likely to warm during this century, and most areas of the U.S. are expected to warm by more than the global average. The average warming in the U.S. is projected to exceed 2°C (3.6°F) by the end of the century, with 5 out of 21 models from IPCC projecting average warming in excess of 4°C (7.2°F).<sup>52</sup> The largest warming is projected to occur in winter over northern parts of Alaska. In western, central and eastern regions of North America, the projected warming has less seasonal variation and is not as large, especially near the coast, consistent with less warming over the oceans.

It is very likely that heat waves will become more intense, more frequent, and longer lasting in a future warm climate, whereas cold episodes are projected to decrease significantly.

Intensity of precipitation events is projected to increase in the U.S. and other regions of the world, increasing the risk of flooding; greater runoff and erosion, and thus the potential for adverse water quality effects.<sup>53</sup> Increases in the amount of precipitation are very likely in higher latitudes, while decreases are likely in most subtropical, more southern regions, continuing observed patterns in recent trends in observations. The mid-continental area is expected to experience drying during summer, indicating a greater risk of drought. It is likely that hurricanes will become more intense,

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52 Christensen, J.H. et al. (2007) Regional Climate Projections. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

53 *Id.* See also, Field, C.B. et al. (2007) North America. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

with stronger peak winds and more heavy precipitation associated with ongoing increases of tropical sea surface temperatures.<sup>54</sup>

For the U.S. coastline, a mid-range emissions scenario shows sea level rise values close to the global mean, with slightly higher rates in eastern Canada and western Alaska, and stronger positive anomalies in the Arctic. The projected rate of sea level rise off the low-lying U.S. South Atlantic and Gulf coasts is also higher than the global average.<sup>55</sup>

*iii. California projections of temperature, precipitation and sea level rise*

Climate change projections were also conducted by California using many of the same global GHG emission scenarios that underlie the IPCC's projections. Over the course of the 21<sup>st</sup> century, temperatures are projected to increase by 3" to 10.4°F.<sup>56</sup> Precipitation trends, which are more difficult to project at the regional scale, do not show consistent trends among different modeling scenarios. Sea level rise is expected to continue along California.<sup>57</sup> The middle to higher end of the projected range would substantially exceed the historical rate of sea level rise observed at San Francisco and San Diego during the past 100 years.<sup>58</sup>

*d. Projected Risks and Impacts Associated with Climate Change*

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54 IPCC (2007) Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

55 Nicholls, R.J. et al. (2007) Coastal Systems and Low-lying Areas. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

56 California Energy Commission (2006) Our Changing Climate: Assessing the Risks to California. [Accessed 08.08.07: <http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF>]

57 Id.

58 California Climate Change Center (2006) *Scenarios of Climate Change in California: An Overview*. CEC-500-2005-186-SF

The IPCC states that vulnerability to climate change is "a function of the character, magnitude and rate of climate change and the variation to which a system is exposed, its sensitivity and its adaptive capacity."<sup>59</sup> Therefore, even though GHGs are global pollutants that remain in the atmosphere long enough to distribute themselves homogenously around the globe, the end-point risks and impacts associated with the resultant climate change vary across and within countries, and over time.

a. Across the US.

The IPCC<sup>60</sup> made the following conclusions with *very* high confidence<sup>61</sup> regarding what are expected to be key impacts for North America:<sup>62</sup> coastal communities and habitats will be increasingly stressed by climate change impacts interacting with development and pollution; climate change will constrain North America's over-allocated water resources, increasing competition among agricultural, municipal, industrial and ecological uses; climate change impacts on infrastructure and human health and safety in urban centers will be compounded by aging infrastructure, maladapted urban form and building stock, urban heat islands, air pollution, population growth and an aging population; and, disturbances such as wildfire and insect outbreaks are increasing and are likely to intensify in a warmer future with drier soils and longer growing seasons.

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59 IPCC (2007) Summary for Policymakers. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

60 Field, C.B. et al. (2007) North America. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

61 According to IPCC terminology, "very high confidence" conveys a 9 out of 10 chance of being correct.

62 Though the IPCC chapter on which this information is based is focused on North America, the IPCC convening lead authors of this chapter confirmed for EPA in a written statement that the chapter's executive summary conclusions are equally applicable to the U.S. See EPA-HQ-OAR-2006-0173-640I.

Severe heat waves are projected to intensify in magnitude and duration over the portions of the U.S. where these events already occur, with likely increases in mortality and morbidity, especially among the elderly, young and frail. Ranges of vector-borne and tick-borne diseases in North America may expand but with modulation by public health measures and other factors.<sup>63</sup>

Climate change is also expected to facilitate the spread of invasive species and disrupt ecosystem services. Over the 21st century, changes in climate will also cause species to shift north and to higher elevations and fundamentally rearrange U.S. ecosystems. Differential capacities for range shifts and constraints from development, habitat fragmentation, invasive species, and broken ecological connections will alter ecosystem structure, function, and services.

The IPCC projects with virtual certainty declining air quality in U.S. and other world cities due to warmer and fewer cold days and nights and/or warmer/more frequent hot days and nights over most land areas.<sup>64</sup> Climate change is expected to lead to increases in ozone pollution, with associated risks in respiratory infection and aggravation of asthma. Ozone exposure also may contribute to premature death in people with heart and lung disease.<sup>65</sup> In addition to human health effects, tropospheric ozone has significant adverse effects on certain vegetation.<sup>66</sup> The directional effect of climate change on ambient particulate matter levels remains uncertain.

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63 Field, C.B. et al. (2007) North America. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

64 IPCC (2007) Summary for Policymakers. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

65 But see discussion above.

66 EPA is currently reviewing the ozone NAAQS, including the impact of ozone on vegetation with respect to the secondary standard for ozone. (72 FR 37818, July 11, 2007)

It should be noted that moderate climate change in the early decades of the century is projected to have some "positive" effects including an increase aggregate yields of rainfed agriculture by 5-20% in the U.S. Such effects, however, contain important variability among regions. Moreover, major challenges are projected for crops that are near the warm end of their suitable range or depend on highly utilized water resources.<sup>67</sup> Recent studies indicate that climate change scenarios that include increased frequency of heat stress, droughts and flooding events reduce crop yields and livestock productivity beyond the impacts due to changes in mean variables alone. Climate variability and change also modify the risks of pest and pathogen outbreaks.

### ***b. Across California***

California is expected to experience many of the key risks and impacts from climate change that have been highlighted above for the U.S. as a whole. Additionally, California has a number of physical and economic characteristics to consider when evaluating climate change impacts within the state, and how those impacts may compare to those in the rest of the country. First, as a state, California has the largest agricultural based economy (based on 13% of U.S. market value of agricultural products sold).<sup>68</sup> Second, California has the largest state coastal population, representing 25% of the U.S. oceanic coastal population.<sup>69</sup>

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67 Field, C.B. et al. (2007) North America. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

68 See USDA's 2002 Census of Agriculture, National Agricultural Statistics Service: <http://www.agcensus.usda.gov/Publications/2002/index.asp>

69 See NOAA (2004) Population Trends Along the Coastal United States: 1980-2008. Note that this figure excludes the coastal population along the Great Lakes. California also has the largest state population, representing just over 12% of the total U.S. population. See Table 1: Annual Estimates of the Population of the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2007 (Population Division, U.S. Census Bureau).

California's agricultural sector is heavily dependent on irrigation, has the nation's highest crop value and is the nation's leading dairy producer.<sup>70</sup> Though most scientific literature has focused on how elevated CO<sub>2</sub> concentrations and climate change may affect crop yields, there is improved information on how livestock productivity may be affected by thermal stress and through nutritional changes in forage caused by elevated CO<sub>2</sub> concentrations. Wine is California's highest value agricultural product;<sup>71</sup> the wine grapes are very sensitive to temperature changes.

The conditions which create California's tropospheric ozone problems remain (e.g., topography, regional meteorology, number of vehicles). Climate change is expected to exacerbate tropospheric ozone levels. A number of studies in the U.S. have shown that summer daytime ozone concentrations correlate strongly with temperature, i.e., ozone is shown to increase with increasing temperature. Atmospheric circulation can be expected to change in a warming climate and, thus, modify pollutant transport and removal. The more frequent occurrence of stagnant air events in urban or industrial areas could enhance the intensity of air pollution events, although the importance of these effects is not yet well quantified.<sup>72</sup>

Wildfires, which are already increasing in duration and intensity, may be exacerbated. Wildfires can also contribute to health problems through increased generation of particulate matter.

California's water resources are already stressed due to competing demands from agricultural, industrial and municipal uses. Climate change is expected to introduce an additional stress to an

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70 California Regional Assessment Group (2002) *The Potential Consequences of Climate Variability and Change for California: A California Regional Assessment*

71 Id.

72 Denman, K.L., et al. (2007) Couplings Between Changes in the Climate System and Biogeochemistry. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

already over-allocated system by increasing temperatures (increasing evaporation), and by decreasing snowpack, which is an important water source in the spring and summer.

California has the greatest variety of ecosystems in the U.S., and the second most threatened and endangered species (of plants and animals combined) and the most threatened and endangered animal species, representing about 21% of the U.S. total.<sup>73</sup> As noted above, climate change is expected to have a range of impacts on U.S. ecosystems.

*e. The impacts of climate change in California compared to the nation as a whole*

As the previous section indicates, global climate change is a substantial and critical challenge for the environment. There is little question that the conditions brought about as a result of global climate change are serious, whether reviewing the issue as a global, national or state-specific issue. However, section 209(b)(1)(B) also requires that conditions be "compelling and extraordinary," in particular with regard to California. The legislative history, when discussing the justification for this provision, discusses conditions in California as "unique," and speaks of California demonstrating "compelling and extraordinary circumstances sufficiently different from the nation as a whole to justify standards on automobile emissions which may, from time to time, need to be more stringent than national standards." S. Rep. No. 403, 90<sup>th</sup> Cong. 1<sup>st</sup> Sess., at 32 (1967). The compromise that brought about section 209(b)(1)(B) was contingent on the condition that vehicle manufacturers would not have to meet separate state standards for conditions in California that were not sufficiently different from the rest of the country to justify such standards.

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<sup>73</sup> U.S. Fish and Wildlife Service, Threatened and Endangered Species System as of February 20, 2008. <http://ecos.fws.gov/tessgpublic/StartTESS.do>

While I find that the conditions related to global climate change in California are substantial, they are not sufficiently different from conditions in the nation as a whole to justify separate state standards. As the discussion above indicates, global climate change has affected, and is expected to affect, the nation, indeed the world, in ways very similar to the conditions noted in California.<sup>74</sup> while proponents of the waiver claim that no other state experiences the impacts in combination as does California, the more appropriate comparison in this case is California compared to the nation as a whole, focusing on averages and extremes, and not a comparison of California to the other states individually. These identified impacts are found to affect other parts of the United States and therefore these effects are not sufficiently different compared to the nation as a whole. California's precipitation increases are not qualitatively different from changes in other areas. Rises in sea level in the coastal parts of the United States are projected to be as severe, or more severe, particularly in consequences, in the Atlantic and Gulf regions than in the Pacific regions, which includes California. Temperature increases have occurred in most parts of the United States, and while California's temperatures have increased by more than the national average, there are other places in the United States with higher or similar increases in temperature.

It is true that many of the effects of global climate change (e.g. water supply issues, increases in wildfires, effects on agriculture) will affect California. But these effects are also

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<sup>74</sup> Indeed, California in an attachment to its Motion for Summary Judgment filed in the U.S. District Court for the District of Columbia, claims “ Other States that have adopted or are considering adoption of the California Standard are also adversely affected by increasing concentrations of atmospheric greenhouse gases, including an increase in coastal erosion, damage to low-lying coastal infrastructure, increased heat waves, increased frequency and intensity of wildfires and the alteration of hardwood forests,” and cites several EPA documents that discuss global climate change impacts in other states. Plaintiffs Motion for Summary Judgment, Separate Statement of Undisputed Material Facts, *California v. EPA*, No. 1:07-CV-02024 (D.C.D.C., Feb. 11, 2008)

well established to affect other parts of the United States.<sup>75</sup> Many parts of the United States may have issues related to drinking water (e.g., increased salinity) and wildfires and effects on agriculture are by no means limited to California. These are issues of national, indeed international, concern and Congress has indicated that such conditions do not merit separate standards in California unless the conditions are sufficiently different in California compared to the rest of the nation as a whole. In my judgment, the impacts of global climate change in California, compared to the rest of the nation as whole, are not sufficiently different to be considered "compelling and extraordinary conditions" that merit separate state GHG standards for new motor vehicles.

## V. DECISION

Having given due consideration to all material submitted for the record and other relevant information and the requisite burden of proof required to deny a waiver, I find that California does not need its GHG standards for new motor vehicles to meet compelling and extraordinary conditions, pursuant to section 209(b)(1)(B). Therefore, I deny California's request to waive application of section 209(a) of the Act with respect to its GHG standards for new motor vehicles. I make no findings with regard to sections 209(b)(1)(A) and 209(b)(1)(C) of the Act.

My decision will affect not only persons in California, but also manufacturers outside the State who would have otherwise had to comply with California's requirements in order to produce new motor vehicles for sale in California. In addition, because other states have adopted or may adopt California's GHG program for new motor vehicles – which is allowed if certain

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<sup>75</sup> See also, EPA's archived Web Site <http://yosemite.epa.gov/oar/globalwarming.nsf/content/impactsstateimpacts.html>, which compiles state-by-state information of global warming impacts.

criteria under section 177 of the Act are met, this decision will also affect those states and those persons in such states. For these reasons, I determine and find, as in past waiver decisions, that this is a final action of national applicability for purposes of section 307(b)(1).

As with past waiver decisions, this action is not a rule as defined by Executive Order 12866. Therefore, it is exempt from review by the Office of Management and Budget as required for rules and regulations by Executive Order 12866.

In addition, this action is not a rule as defined in the Regulatory Flexibility Act, 5 U.S.C. section 601(2). Therefore, EPA has not prepared a supporting regulatory flexibility analysis addressing the impact of this action on small business entities.

Dated: FEB 29 2008

A handwritten signature in black ink, appearing to read 'S. L. Johnson', written over a horizontal line.

Stephen L. Johnson, Administrator