

Sent via email:

February 24, 2023

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Center for Biological Diversity

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Re: Response to Petition to Regulate Sulfuryl Fluoride to Reduce the Use of the High Global Warming Potential Pesticide

Dear Mr. Evans, Ms. Getz, and Ms. Sellen:

Thank you for submitting a petition for rulemaking<sup>1</sup> on behalf of the Center for Biological Diversity and Californians for Pesticide Reform on October 27, 2022, to the California Air Resources Board (CARB or Board). CARB staff initially acknowledged receipt of the petition on October 27, 2022.<sup>2</sup> We appreciate that petitioners agreed to extend the deadline for response to the petition to February 24, 2023.

In your petition, you requested that CARB initiate a rulemaking and other appropriate actions to add sulfuryl fluoride to CARB's annual greenhouse gas emissions inventory and phase out the use of sulfuryl fluoride in California pursuant to Assembly Bill (AB) 32 (Núñez and Pavley, Chapter 488, Statutes of 2006). The petition correctly identifies CARB as California's state agency "charged with monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases" and tasked with developing and adopting the specific rules and regulations needed to achieve healthful air quality. CARB is committed to carrying out this mandate and staying at the forefront of the fight against climate change. We thank petitioners for their ideas on continuing that fight and would like to build upon this dialogue moving forward.

<sup>&</sup>lt;sup>1</sup> Submitted pursuant to Government Code, § 11340.6.

<sup>&</sup>lt;sup>2</sup> See email exchange between David Hults, Assistant Chief Counsel at CARB, to Camilla Getz, counsel for petitioners, attached as Exhibit A.

<sup>&</sup>lt;sup>3</sup> Health & Saf. Code, § 38510.

### Summary

CARB is a global leader in developing and implementing actions to mitigate climate change by regulating, incentivizing, and otherwise encouraging actions to reduce greenhouse gas (GHG) emissions. Partners around the world look to California as a model for decarbonization across all economic sectors. Cost-effectively reducing greenhouse gas emissions in California not only benefits the State's residents and economy, but also supports and encourages other jurisdictions to take similar action to mitigate human-induced climate change. The latest report on climate change from the International Panel on Climate Change shows the world is not doing enough to avoid the worst climate impacts.<sup>4</sup> It is essential that California continue to strengthen its climate mitigation efforts, including by continuing to expand knowledge of alternative energy and products that are less greenhouse gas intensive.

Sulfuryl fluoride is both a greenhouse gas and a pesticide. The safe, effective use of pesticides is important for the State and many stakeholders, including homeowners impacted by termite infestations and the agricultural interests that need to ensure the food they produce is pest-free. Although sulfuryl fluoride is a greenhouse gas, as acknowledged in the petition, sulfuryl fluoride is not listed in Health and Safety Code section 38505, subdivision (g), which defines a list of "greenhouse gases" that CARB includes in the statewide GHG emissions inventory.

CARB is committed to further dialogue and further study of this issue. We note ongoing efforts—which we further discuss below— to address pesticides that pose human health risks; these efforts provide an important forum for considering next steps.

With respect to the inventory request: CARB does not have a regulation governing its GHG emissions inventory. Further, CARB does not currently plan to adopt a regulation or to take other, non-regulatory steps to add sulfuryl fluoride to that inventory. CARB has, to date, only included gases listed in Health and Safety Code section 38505, subdivision (g) in its inventory. Adding an unlisted greenhouse gas to the inventory would be a new step for CARB and would require further study and discussion with stakeholders and partner agencies.

As to the requested phase-out of sulfuryl fluoride: CARB lacks sufficient information at this time to determine whether a sulfuryl fluoride phase-out is warranted given its use and overall impact on global temperature changes, the limited information available on cost-effective GHG emissions mitigation approaches, and the pest-control and economic consequences of phasing-out sulfuryl fluoride. For that reason, CARB declines to initiate a regulatory process to phase-out sulfuryl fluoride at this time.

In summary, CARB grants this petition in part as to providing other relief—namely further study and dialogue—to address sulfuryl fluoride and its impacts. However, CARB denies this petition and at present will not initiate a rulemaking either proposing to add sulfuryl fluoride to its AB 32 greenhouse gas emissions inventory or to phase out sulfuryl fluoride.

We provide background and further discussion below.

<sup>&</sup>lt;sup>4</sup> CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality, available at <a href="https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf">https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf</a>; IPPC. 2022. Climate Change 2022: Mitigation of Climate Change, available at <a href="https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/">https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/</a>.

# Background on Sulfuryl Fluoride and California Department of Pesticide Regulation

Sulfuryl fluoride (SO<sub>2</sub>F<sub>2</sub>) is a fluorinated gas with a lifetime of 36 years and a 20-year global warming potential (GWP) of 7510.<sup>5,6</sup> It is used in California as a pesticide for building fumigation to respond to drywood termites in California homes and buildings, and for commodity fumigation to ensure dried fruits, nuts, and other agricultural commodities are kept pest-free during storage prior to shipping. According to the University of California, Riverside, more than 100,000 structural fumigations with sulfuryl fluoride are conducted in California annually.<sup>7</sup> In 2020, the California Department of Pesticide Regulation (DPR) reported that approximately 2.82 million pounds of sulfuryl fluoride was applied in California, with approximately 80% used as a structural fumigant, and the remainder in agricultural applications.<sup>8</sup> It is one of the most common fumigant replacements for methyl bromide, an ozone-depleting substance that has been phased out for most uses, and is the only fumigant registered for treating structural pests in California. Sulfuryl fluoride is not registered for use in agricultural fields.

Pesticides, including sulfuryl fluoride, are regulated under both federal and state law. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the U.S. Environmental Protection Agency (EPA) has authority to regulate pesticide registration, distribution, labeling, sale, and use. DPR is the agency responsible for regulating the sale and use of pesticides in California under state law. Prior to being distributed, sold, or used in California, pesticides must first be registered (licensed) with U.S. EPA and subsequently registered with DPR. Registration ensures that pesticides will be properly labeled and will not cause significant adverse effects to human health or the environment. Neither U.S. EPA nor DPR regulate sulfuryl fluoride as a greenhouse gas.

DPR listed sulfuryl fluoride as a toxic air contaminant (TAC) in 2006.<sup>10</sup> Because of its designation as a registered pesticide and TAC, its use is strictly controlled. U.S. EPA released a draft report on sulfuryl fluoride mitigation in residential fumigation to prevent deaths and serious injuries.<sup>11</sup> The proposed practices are largely in place in California. DPR's control of sulfuryl fluoride and similar pesticides of concern includes requirements for labeling, usage,

<sup>&</sup>lt;sup>5</sup> IPPC. 2022. Climate Change 2022: Mitigation of Climate Change, available at <a href="https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/">https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/</a>.

<sup>&</sup>lt;sup>6</sup> Global warming potential is a measure of how a greenhouse gas's warming effect over a period compares to the warming effect of carbon dioxide over the same period.

<sup>&</sup>lt;sup>7</sup> Sulfuryl Fluoride Structural Fumigation, Personal Chemical Exposure Program, Department of Entomology, University of California, Riverside. Available at: http://faculty.ucr.edu/~krieger/SF%20Web%20Presentation%20Krieger%207%2019.pdf.

<sup>&</sup>lt;sup>8</sup> DPR, Pesticide Use Annual Report, 2020 Data Summary, available at <a href="https://www.cdpr.ca.gov/docs/pur/pur20rep/pur">https://www.cdpr.ca.gov/docs/pur/pur20rep/pur</a> data summary 2020.pdf; DPR, California Pesticide Information Portal (CalPIP), available at <a href="https://calpip.cdpr.ca.gov/main.cfm">https://calpip.cdpr.ca.gov/main.cfm</a>.

<sup>&</sup>lt;sup>9</sup> See, Food & Agricultural Code §§ 11401-12408, 12500-15340, 14021-14027.

<sup>&</sup>lt;sup>10</sup> California Code Regulations (Cal. Code Regs.), Title 3, section 6860.

<sup>&</sup>lt;sup>11</sup> In 2021, U.S. EPA released a draft report on mitigation measures to ensure the safe use of sulfuryl fluoride in residential fumigation to prevent deaths and serious injuries. The early report on proposed mitigation included recommendations to remove ineffective clearance devices from product labels, require Fumigant Management Plans, and enhance signage, stewardship, and aeration procedures for residential fumigations. U.S. EPA. May 2021. Sulfuryl Fluoride Draft Interim Re-Entry Mitigation Measures, available at <a href="https://www.epa.gov/ingredients-used-pesticide-products/sulfuryl-fluoride">https://www.epa.gov/ingredients-used-pesticide-products/sulfuryl-fluoride</a>.

and pesticide user's employer obligations to protect health and safety. <sup>12</sup> In 2008, DPR placed structural fumigants containing sulfuryl fluoride as an active ingredient into reevaluation based on identification of several scenarios where human exposure to sulfuryl fluoride is of concern and cannot be mitigated using known mitigation strategies at the time. <sup>13</sup> The reevaluation ended in 2013. Under a 2010 California Aeration Plan (CAP), fumigators can take measures to reduce impacts from use of sulfuryl fluoride. <sup>14</sup> In 2021, DPR issued a sulfuryl fluoride structural fumigation mitigation scoping document that describes how DPR will use an updated modeling system to simulate uses of sulfuryl fluoride in structures under different conditions. <sup>15</sup> The goal is to identify the effects of changes in these parameters in the ambient air concentrations of sulfuryl fluoride including to what extent individual or combinations of parameters will result in lower ambient concentrations, to support consideration of next steps.

Sulfuryl fluoride was believed to have a negligible GWP until 2009, when new research assigned a 100-year GWP of 4090 and a 20-year GWP of 6840. Sulfuryl fluoride was not included as an AB 32 GHG and is not annually inventoried as a part of CARB's statewide GHG emissions inventory. CARB's 2017 Short-Lived Climate Pollutant (SLCP) Reduction Strategy acknowledged sulfuryl fluoride as a short-lived climate pollutant.<sup>16</sup>

Research has sought to identify alternatives to replace sulfuryl fluoride<sup>17</sup> or methods of absorbing before being released into the atmosphere.<sup>18</sup> As described further below, CARB and other agencies need further information about alternatives as well as the impacts and usage trends of sulfuryl fluoride in California and around the world to better evaluate appropriate actions in response.

## Sustainable Pest Management Work Group

In early 2021, DPR, in collaboration with CalEPA and CDFA, convened the Sustainable Pest Management Work Group (SPM Work Group) to develop a roadmap to guide implementation of ambitious, measurable goals and strategies to accelerate the transition to a more sustainable pest management system in California. The members included stakeholders of pest management from agricultural industry, community representatives, environmental

<sup>&</sup>lt;sup>12</sup> See e.g., title 3, Cal. Code Regs., § 6780.

 <sup>&</sup>lt;sup>13</sup> DPR. Active Ingredient: Sulfuryl Fluoride Human Health Risk Assessment and Mitigation Documents and Activities, available at <a href="https://www.cdpr.ca.gov/docs/whs/active\_ingredient/sulfuryl-fluoride.htm">https://www.cdpr.ca.gov/docs/whs/active\_ingredient/sulfuryl-fluoride.htm</a>.
 <sup>14</sup> DPR. October 26, 2010. Enforcement CAC Letter 2010-20, Implementation of California Aeration Plan for Structural Fumigations. Available at

https://www.cdpr.ca.gov/docs/county/cacltrs/penfltrs/penf2010/2010020.htm.

<sup>&</sup>lt;sup>15</sup> DPR. January 22, 2021. Sulfuryl Fluoride Structural Fumigation Mitigation Scoping Document, available at <a href="https://www.cdpr.ca.gov/docs/whs/pdf/sulfuryl-fluoride-mitigation-012221.pdf">https://www.cdpr.ca.gov/docs/whs/pdf/sulfuryl-fluoride-mitigation-012221.pdf</a>.

<sup>&</sup>lt;sup>16</sup> CARB. 2016. Short-Lived Climate Pollutant Strategy, Appendix C: California SLCP Emissions, available at <a href="https://ww2.arb.ca.gov/sites/default/files/2020-07/SLCP">https://ww2.arb.ca.gov/sites/default/files/2020-07/SLCP</a> Appendix C.pdf.

<sup>&</sup>lt;sup>17</sup> Volatile Essential Oils Can Be Used to Improve the Efficacy of Heat Treatments Targeting the Western Drywood Termite: Evidence from Simulated Whole House Heat Treatment Trials" Perry et al, Journal of Economic Entomology, 113(5), 2020, 2448–2457.

<sup>&</sup>lt;sup>18</sup> Nie, Yong & Liang, Xiaojiang & Ji, Jianbing & Lu, Meizhen & Yu, Fengwen & Gu, Dayong & Xie, Qinglong & Min, Min. (2015). Harmless Treatment of Sulfuryl Fluoride by Chemical Absorption. Environmental Engineering Science. 32. 789-795. 10.1089/ees.2015.0021.

organizations, advisory bodies, and academia, among others. The group also included an urban subgroup to specifically consider urban pest management practices.

The SPM Work Group released a Roadmap for "Accelerating Sustainable Pest Management" in California (Roadmap) in January 2023.<sup>19</sup> This Roadmap builds upon years of work by DPR through many public processes with stakeholders to seek to understand the research about the usage and impacts of various pesticides as well as viable alternatives. As a partner with DPR on many pesticide air quality impacts, CARB is also reviewing the 2050 goals and recommended actions in the Roadmap.

CARB notes that the Roadmap sets goals that, by 2050, (1) priority pesticides will have been eliminated from use and (2) sustainable pest management will have been adopted as the de facto pest management system in California. This supports the priority outcome of eliminating adverse human health and environmental impacts associated with pesticide use. The Roadmap lists five keystone actions, which include prioritizing prevention, coordinating state-level leadership, investing in building Sustainable Pest Management knowledge, improving California's pesticide registration process and bringing more alternative products to market, and enhancing monitoring and data collection. DPR will identify priority pesticides with the advisement of the SPM Advisory Committee.

CARB will be working with DPR to understand how CARB can support implementation of the SPM Work Group's Roadmap.

### **Greenhouse Gas Emissions Inventory**

Since 2006, CARB has prepared, adopted, and regularly updated a statewide emissions inventory of the greenhouse gases listed in statute.<sup>20</sup> CARB, other state agencies, stakeholders, and the public use the inventory to monitor California's greenhouse gas emissions trends and progress in meeting the State's climate goals. Emissions estimates rely on regional, State, and national data sources and facility-specific emissions data reported through the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.

The Legislature has only updated the statutory list of greenhouse gases to include in the inventory once since 2006, and that occurred in 2009.<sup>21</sup> The greenhouse gas emissions required to be inventoried include those of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and nitrogen trifluoride (NF<sub>3</sub>). There is no regulation for the inventory and CARB does not intend to adopt an inventory-related regulation. Adding an unlisted greenhouse gas to the GHG inventory would be a new step for CARB which would necessitate study of many issues and engagement with other agencies and stakeholders.

In 2015, separate from the greenhouse gas emissions inventory, CARB developed a one-time inventory of SLCP emissions that included sulfuryl fluoride emissions, and this information was

<sup>&</sup>lt;sup>19</sup> SPM Work Group. January 2023, <u>Accelerating Sustainable Pest Management: A Roadmap for California, available at https://www.cdpr.ca.gov/docs/sustainable pest management roadmap/.</u>
<sup>20</sup> Health & Saf. Code §§ 39607.4, 38505.

<sup>&</sup>lt;sup>21</sup> See Senate Bill 104 (Oropeza, Chapter 331, Statutes 2009); Health & Saf. Code § 38505.

reflected in the SLCP Reduction Strategy. This SLCP emissions inventory used DPR data showing that 3 million pounds of sulfuryl fluoride were used in 2013, which equates to 9.4 MMTCO<sub>2</sub>e emissions (using 20-year GWP values), or approximately 20 percent of all fluorinated gas emissions.  $^{23}$ 

## 2022 Scoping Plan

Throughout 2021 and 2022, CARB and partner agencies worked in a public process to develop an update to the state's Scoping Plan, which included discussions of pesticides in the climate policy context. While DPR is the primary regulator of pesticide usage, CARB plays a role in consideration of regulatory, research, and incentive actions to respond to public health issues related to usage of pesticides that are toxic air contaminants, greenhouse gases, or precursors to criteria pollutants. The State's air quality agency leaders understand the critical priority of ensuring public health in the usage of pesticides. In addition to the SPM Work Group, there is also an effort by the California Environmental Protection Agency (CalEPA), DPR, and Office of Environmental Health Hazard Assessment (OEHHA) to address pesticide and environmental justice issues.

CARB has recognized community concerns with pesticide use impacts and is committed to ongoing work with partners on pesticides issues. During public processes to develop major state air quality policy planning efforts led by CARB, CARB Board members have encouraged and supported staff to continue its work with CalEPA, DPR, and other agencies, and to otherwise consider appropriate actions to help address potential air quality impacts related to pesticide use. These public conversations with impacted stakeholders arose specifically during the development of the 2022 climate change scoping plan updates.

Under state law, CARB is required to update at least every five years the State's climate change Scoping Plan, which outlines strategies for the state to meet its climate commitments. He most recent Scoping Plan Update was approved by the Board in December 2022. In multiple Board meetings during the development of that 2022 Scoping Plan update (2022 Scoping Plan), including joint meetings with the Board and the Environmental Justice Advisory Committee, Board members raised the need for interagency collaborations and other efforts to respond to pesticide impacts while also keeping the State's climate strategy focused on GHG emissions reductions. At the June 2022 informational Board hearing on the draft Scoping Plan, former CalEPA Secretary for Environmental Protection Jared Blumenfeld testified about the importance of keeping California's climate strategy focused on addressing the most significant sources of greenhouse gas emissions, noting that "watering down the focus of [the 2022 Scoping Plan] will have a negative effect of distracting us from the very real challenge of implementing emissions reductions." He

https://ww2.arb.ca.gov/sites/default/files/barcu/board/mt/2022/mt121522.pdf.

https://ww2.arb.ca.gov/sites/default/files/barcu/board/mt/2022/mt062322.pdf.

<sup>&</sup>lt;sup>22</sup> CARB. March 2017, Short Lived Climate Pollutant Reduction Strategy, available at, https://ww2.arb.ca.gov/resources/documents/slcp-strategy-final.

<sup>&</sup>lt;sup>23</sup> *Id.*, Appendix C: California SLCP Emissions, available at <a href="https://ww2.arb.ca.gov/sites/default/files/2020-07/SLCP">https://ww2.arb.ca.gov/sites/default/files/2020-07/SLCP</a> Appendix C.pdf.

<sup>&</sup>lt;sup>24</sup> Health and Saf. Code § 38561.

<sup>&</sup>lt;sup>25</sup> CARB, Board Meeting Transcript, December 15, 2022,

<sup>&</sup>lt;sup>26</sup> CARB, Board Meeting Transcript, June 23, 2022,

former Secretary's comments, and the Board member's feedback, reflected the need to continue multi-agency efforts to address environmental challenges like pesticides through the appropriate agency efforts.

Following approval of the 2022 Scoping Plan, CARB is now working to develop implementation measures identified in the plan as appropriate, including both climate smart land management strategies that may also reduce pesticide use on croplands as well as collaborating with CDFA and DPR on additional research on the intersection of pesticides, soil health, and GHGs.<sup>27</sup> While the 2022 Scoping Plan actions relate to pesticides used on croplands, CARB will be considering what information and research is needed for addressing impacts of pesticides, including sulfuryl fluoride, that are used in other contexts beyond natural and working lands.

In its high-level planning context, the 2022 Scoping Plan referenced pesticide use broadly. There are many registered pesticides in California that support the state's agricultural system and control urban pests, but that do or may require action to avoid unwanted associated impacts. The work of identifying and implementing such action will continue as state agencies and others implement the 2022 Scoping Plan, including by considering recommendations from the SPM Work Group Roadmap to achieve California's sustainable pest management goals.

### Research

To better understand the gas and its emissions trends, CARB will continue to review DPR data and literature on California sulfuryl fluoride emissions and discuss with DPR options for potential sulfuryl fluoride emissions reductions. This initiative should improve CARB's understanding of what gaps exist in the research, and how CARB might utilize its own research planning efforts to support DPR and fill these gaps.

To date, research indicates that alternatives are not sufficiently viable to replace sulfuryl fluoride for its necessary uses for residential termite fumigation and agricultural commodity fumigation. An alternative fumigant, phosphine (PH<sub>3</sub>), with a GWP of 0, is also used as an alternative to methyl bromide and sulfuryl fluoride. However, reported insect tolerance to phosphine has limited its widespread usage.<sup>28</sup> Non-chemical commodity treatment has been studied since 1995, including thermal irradiation, and controlling the atmosphere to "suffocate" insects in either low-oxygen or high-carbon dioxide environments.<sup>29</sup> Chemical treatment remains dominant due to cost and feasibility issues for these non-chemical alternatives. Structural fumigation generally includes tenting the entire structure and treating it to kill termites, or more rarely, wood-boring beetles and other pests living in the structure.

http://www.cdpr.ca.gov/docs/emon/methbrom/mb4chg.htm.

<sup>&</sup>lt;sup>27</sup> CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality, pages 256, 264, available at <a href="https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf">https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf</a>.

<sup>&</sup>lt;sup>28</sup> Phosphine Fumigation of Stored Agricultural Commodity - Programmatic Environmental Assessment. November 2013. United States Agency for International Development (USAID), prepared under USAID's Global Environmental Management Support (GEMS) project. Available at: http://www.usaidgems.org/documents/fumigationpea/fumigationpeafeb24 2014.pdf.

<sup>&</sup>lt;sup>29</sup> DPR. September 1995. Alternatives to Methyl Bromide: Research Needs for California - Report of the Methyl Bromide Research Task Force To The Department of Pesticide Regulation and The California Department of Food and Agriculture, available at

While many termite control companies only use sulfuryl fluoride, many others have begun using alternative termite control methods, including orange oil, structure heating, or extreme cooling, microwaves, and electricity. Additionally, some research has been conducted that could lead to the development of engineering control strategies that would reduce posttreatment sulfuryl fluoride concentrations in fumigated environments before venting into the atmosphere.30

More research is needed on alternatives to sulfuryl fluoride or potential sulfuryl fluoride mitigation approaches, including on effectiveness and impacts, to understand whether any alternative will better balance meeting the goals described in the 2022 Scoping Plan, and SPM Work Group Roadmap to mitigate climate change, support a strong agricultural economy, practice safe urban pest management, and protect public health. As described in the SCLP Reduction Strategy's discussion of fluorinated gases, peer-reviewed research indicates that sulfuryl fluoride fumigation is more effective than alternatives for termite eradication.<sup>31</sup>

In addition to alternatives or engineering controls, as part of the overarching approach to pesticides, it is important for DPR and CARB to understand specific trends in sulfuryl fluoride usage. Understanding and tracking the locations, types, and amounts of use of sulfuryl fluoride will allow the agencies to be able to consider what alternatives and options for actions to address impacts may exist. CARB will continue to work with DPR and will also look for data or research on sulfuryl fluoride use outside of California to assess trends in usage as well as alternatives to sulfuryl fluoride.

#### **Determination and Conclusion**

After careful consideration of the petition for rulemaking, the relevant law, and the current context of ongoing policy development and anticipated implementation activity, the petitioners' petition for rulemaking, pursuant to Government Code section 11340.7<sup>32</sup> is denied in part and granted in part as to other relief. This code section provides that CARB "may grant or deny the petition in part and may grant any other relief or take any other action it may determine to be warranted by the petition."33

<sup>&</sup>lt;sup>30</sup> Nie, Yong & Liang, Xiaojiang & Ji, Jianbing & Lu, Meizhen & Yu, Fengwen & Gu, Dayong & Xie, Qinglong & Min, Min. (2015). Harmless Treatment of Sulfuryl Fluoride by Chemical Absorption. Environmental Engineering Science. 32. 789-795. 10.1089/ees.2015.0021.

<sup>&</sup>lt;sup>31</sup> CARB. March 2017. Short Lived Climate Pollutant Strategy, Appendix D: Research Related to Mitigation Measures, available at https://ww2.arb.ca.gov/sites/default/files/2020-07/SLCP Appendix D.pdf.https://ww2.arb.ca.gov/sites/default/files/2020-07/SLCP Appendix D.pdf

<sup>&</sup>lt;sup>32</sup> The Board may delegate any duty it deems appropriate to its Executive Officer (Health & Saf. Code, § 39515(a)). The Board is conclusively presumed to have delegated any of its powers to the Executive Officer unless it has expressly reserved that power to itself (Health & Saf. Code, § 39516). The Board has not reserved the power to act on rulemaking petitions and it is, therefore, appropriate for me to act on this petition pursuant to my delegated authority.

<sup>33</sup> Gov. Code, § 11340.7 provides that an agency addressing a petition shall "identify the agency, the party submitting the petition, the provisions of the California Code of Regulations requested to be affected, reference to authority to take the action requested, the reasons supporting the agency determination, an agency contact person, and the right of interested persons to obtain a copy of the petition from the agency." This response fulfills those requirements.

## Specifically, I am:

- (1) Denying the petition in part by declining to initiate a rulemaking at this time to include sulfuryl fluoride in CARB's AB 32 greenhouse gas emissions inventory and to regulate a phase down of sulfuryl fluoride use in California.
- (2) Granting other relief by affirming that CARB will continue to engage with petitioners, other stakeholders, and partner agencies on the programmatic and climate impact concerns, as well as environmental justice concerns, related to the use of sulfuryl fluoride in the State raised in the petition and by other stakeholders as described above. This engagement can occur through CARB directly and through the consideration and implementation of the recommendations of the SPM Work Group's Roadmap for "Accelerating Sustainable Pest Management" in California. Other state agencies have roles to play in the process, as noted above. CARB is committed to climate change mitigation and will continue to focus on actions it and its partners can take that can improve air quality and health in impacted communities and support the State and various partners to make progress in reducing GHG emissions and achieving State climate goals.

The record upon which this decision is based includes the petition and its exhibits, this letter, and the materials referenced herein. While CARB is denying the petition to initiate a rulemaking, CARB appreciates and welcome petitioners' continued engagement and information sharing within these ongoing public processes to improve our programs and the achievement of our shared important policy goals. In accordance with Government Code section 11340.7, subdivision (d), a copy of this letter is being transmitted to the Office of Administrative Law for publication in the California Regulatory Notice Register. The agency contact person in this matter is Gabriel Monroe, Senior Attorney, available at (916) 324-2132 or Gabriel.Monroe@arb.ca.gov and Abigail D. May, Senior Attorney, available at (279) 208-7125 or Abigail.may@arb.ca.gov. Interested parties may obtain a copy of the petition upon request to Chris Hopkins, available at (279) 208-7347 or Chris.Hopkins@arb.ca.gov. Upon request, physical copies may be obtained from 1001 I Street, Sacramento, California, 95814.

Sincerely,

Steven S. Cliff, Ph.D., Executive Officer

#### Attachments

cc: (via email only)

Liane M. Randolph, CARB Chair Edie Chang, CARB Deputy Executive Officer Chanell Fletcher, CARB Deputy Executive Officer Rajinder Sahota, CARB Deputy Executive Officer Ellen M. Peter, CARB Chief Counsel

Julie Henderson, DPR Director

Karen Morrison, DPR Chief Deputy Director and Science Advisor