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Clerk's Office
California Air Resources Board (CARB)
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Submitted electronically: https://ww2.arb.ca.gov/applications/public-comments

May 31, 2022

***RE:* Comments on Advanced Clean Cars II Regulation**

Dear CARB Staff,

On behalf of the Associated General Contractors (AGC) of California, we are submitting comments to the California Air Resources Board (CARB) in response to Advanced Clean Cars II Regulation.

AGC of California is a member-driven organization that statewide consists of over 900 companies. Our members provide commercial construction services that utilize passenger vehicles and pick-up trucks. We believe the construction industry is vital to the success of California. Together, our members actively create opportunities to build and strengthen our state. We are passionate about shaping policy, improving industry relationships, and developing our workforce.

AGC of California appreciates the opportunities to participate in CARB's regulatory process by submitting a comment letter to advocate on behalf of the construction industry. A summary of our concerns includes the lack of reliable technology to meet consumer demand and the cost of zero-emission vehicles (ZEVs). Please read below for more information.

1. Lack of Reliable Technology.

While AGC of California supports actions that reduce greenhouse gas emissions making our communities an even safer place to live, we urge CARB to consider the feasibility of the Advanced Clean Cars II regulation. At this moment in time, there is not current technology to reliably initiate this regulation. According to the CalMatter's article, "California's electric grid is not ready to meet climate goals," California's electrical grid was largely

developed in the last century and was designed with natural gas fired generation located in urban areas, supplemented by remote hydro, nuclear, and geothermal energy (2022). The electrical grid was *not* designed to accommodate phasing out urban gas-fired generation and tripling the among of energy delivered from remote wind and solar energy. Additionally, the most recent 10-year plan developed from the Public Utilities Commission does not take shutting down gas power plants into account from now to 2031. This is concerning because rolling blackouts have been increasing over the past couple of years.

On January 13, 2021, the California Independent Systems Operator, California Public Utilities Commission, and California Energy Commission released a report regarding the root-cause analysis of the mid-August extreme heat wave power blackouts. This report states that the root-cause was attributed to "extreme weather conditions, resource adequacy and planning processes, and market practices". Additionally, it states "[t]he energy markets can help fill the gap between planning and real-time conditions, but the West-wide nature of this extreme heat wave limited the energy markets' ability to do so". Therefore, it expresses the need to have carefully thought-out regulations that take California's current resources into consideration, as opposed to initiating a regulation that is not practical.

UC Berkley published the peer-reviewed article, "Inequitable access to distributed energy resources due to grid infrastructure limits in California," where the authors analyzed grid limits to new distributed energy resources integration across California's two largest utility territories (Brockway, Conde, & Callaway, 2021). They found that "grid limits reduce access to solar photovoltaics to less than half of households served by these two utilities, and may hinder California's electric vehicle adoption and residential load electrification goals." This stresses the need to address the limits of the electrical grid prior to implementing a regulation that imposes unrealistic goals. Furthermore, they evaluated the relationship between demographic characteristics and access. They found that the grid limits exacerbate existing inequities, particularly that disadvantaged census block groups have disproportionately less access to new solar photovoltaic capacity based on circuit hosting capacity. Since CARB is an organization that values equity, AGC of California encourages this to be taken under consideration in the development of this regulation.

All in all, AGC of California urges CARB to consider upgrading the electrical grid so that energy can reliably get to consumers that would make this regulation obtainable. Additionally, to consider equity needs in the design of the Advanced Clean Cars II regulation for prioritizing grid upgrades.

2. Cost of ZEVs.

Another concern of the Advanced Clean Cars II regulation is the imposed cost the ZEVs for consumers and businesses. Within the Cambridge University press article, "The Benefits and Costs of Automotive Regulations for Low-Income Americans," the authors discuss who bears the costs of automotive regulations which are consumers of vehicles, employees of the industry, suppliers and/or dealers, and owners/investors (Conrad & Graham, 2021). Consumer of vehicles are affected in the form of higher vehicle prices or diminished product quality and employees in the industry are affected by responding to higher costs by reducing the compensation for employees or number of employees. Higher new vehicle prices, whether it be due to regulation or other factors, can create upward pressure on demand and prices for used vehicles. The increase in cost for new and used vehicles will be particularly

challenging for low-income households and businesses.

Additionally, the repair-cost advantages of electric cars typically exclude the large replacement costs for batteries in the second half of an electric car's life. Recurrent Auto released the article, "Costs of Electric Car Battery Replacement," that states a replacement battery can cost up to $20,000 per vehicle when the car is out of warranty, not including the cost of labor and taxes (Witt, 2022). Although the cost of batteries may be expected to decline over the years, the cost is still substantial. The Wharton analysis suggests that by 2025, the cost of a 100 kWh battery replacement out of warranty may cost up to $13,500 per vehicle. AGC of California urges CARB to evaluate these additional costs.

Lastly, it is argued that the environmental impacts outweigh the economic costs of the regulation, however, there is some evidence that suggests environmental impacts may potentially be exaggerated. Environmental Research Letters published the article, "Environmental and economic impact of electrical vehicle adoption," where the authors conducted a comprehensive impact assessment of battery electric vehicle (BEV) adoption (Chen, Carrel, Gore, & Shei, 2021). In this article the authors state that "[a]lthough BEV adoption leads to decreases in tailpipe emissions, increased manufacturing activity as a result of productivity increases or subsidies can lead to growth in non-tailpipe emissions that cancels out some or all of the tailpipe emissions savings". Additionally, the Emissions Analytics released a newsletter in May 2022 highlighting research that demonstrates pollution from tire wear can be 1,850 times worse than car exhaust emissions in real-world settings. Since CARB does not take tire wear emissions into consideration when evaluating the cost versus the benefit of the regulation, the proposed environmental impacts may be misleading.

Emissions Analytics first released information in their 2020 press release that pollution of tire wear can be 1,000 times worse than car exhaust emissions, however, since then they have conducted more testing and analyses under a wide range of driving conditions and performed a detailed chemical analysis. Tire wear mass emissions were measured by high-precision scales to weigh all four wheels (tires and rims together without detaching) over at least 1,000 miles on real roads along with a proprietary sampling system that collects particles at a fixed point immediately behind each tire that are drawn into a real-time detector measuring the size of distribution of particles by mass and number. Particles from 10 microns down to 6 nanometers were measured. Tailpipe particles were measured using a diffusion charger analyzer for dynamic mass concentration and condensing particle counter for number concentration, coupled with a standard Portable Emissions Measurement System (PEMS). Their results indicate that tire wear emissions are 1,850 times greater than tailpipe emissions. Additionally, they discuss risks associated with battery electric vehicles (BEVs): battery weight can result in tire emissions that are almost 400 more times greater than real-world tailpipe emissions.

While AGC of California supports action to decrease tailpipe emissions, it is important that benefits outweigh the costs imposed by the regulation. While it may be impractical to incorporate all possible factors into the model, it is important that as many key factors be incorporated as possible to ensure that real-world situations are taken into consideration.

Conclusion

AGC of California appreciates California Air Resources Board (CARB) for allowing AGC of California to comment on the Advanced Clean Cars II Regulation. We assert that CARB consider the comments we

have expressed above. If you have any questions regarding the comments, please contact Brian Mello at 603-770-9264 (email: mellob@agc-ca.org). We appreciate the opportunity to comment and hope these concerns are addressed.

Sincerely,

Brian Mello

Brian Mello
Associate Vice President of Engagement & Regulatory Affairs
Associated General Contractors of California