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19-6-2



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BYD America  
1800 S Figueroa St.  
Los Angeles, CA 90015

June 27, 2019

California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

**Re: Comments on the Proposed Zero-Emission Airport Shuttle Bus Regulation**

Dear Chair Nichols and Members of the Board:

Thank you for this opportunity to comment on the proposed Zero-Emission Airport Shuttle Bus regulation ("ASB"). BYD is a manufacturer of zero emission medium-duty and heavy-duty vehicles here in California. Our North American headquarters is based in Los Angeles and we have manufacturing facilities located in Lancaster. We are a proud union company that has invested in a diverse workforce of nearly 1,000 employees.

We applaud your leadership in setting a national standard for transportation electrification with the Innovative Clean Transit Rule and your continued investments in transitioning fleets to zero emission vehicles. The ASB rule presents another opportunity to show California's leadership. With their defined routes, airport shuttles are a natural next step for transportation electrification. BYD strongly supports the rule's goal of transitioning California's airport shuttle bus fleets to zero-emission by 2035 and stands ready to do its part to make that transition a reality.

To date, BYD has three airport projects across the country for zero emission buses. At LAX, we are building twenty 60 ft. zero emission buses, which will replace those in use for satellite terminals. At Kansas City International Airport, we have four 30 ft. zero emission buses in use with an order for additional buses expected in 2019. We will also soon be putting two 40 ft. zero emission parking shuttles in use at Atlanta's Hartsfield-Jackson International Airport.

As a stakeholder engaged since the early days of the rulemaking, BYD is pleased to see the process entering its final phase. The environmental benefits that will be derived from the rule cannot be underestimated, nor can the health benefits that will be realized with the reductions in criteria air pollutant emissions (not to mention the reduction in noise pollution improving the experience of airport travel). The rule will also send a critical signal to the market that zero-emission buses in all sectors are here to stay, which will in turn drive technology transfer and investment in the truck sector, as was the case for BYD's vehicles.

With this background in mind, BYD would like to offer the following comments in support of the rule.

**The ASB rule builds on successful deployments of zero emission buses**

When this rule is combined with the Innovative Clean Transit Rule, we fully expect the potential for zero emissions buses to be realized. In California, we have delivered 84 all-electric, zero-emission buses to



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transit authorities with another 157 orders on the way. We currently have 19 public transit customers in California. We also have provided more than 115 buses to public and private entities, airports and universities in California, with another 33 buses on order. BYD is particularly excited to have 80 buses in operation at universities in California, including more than 40 buses in Stanford's system, all of UC Irvine's 100% electric bus fleet, and the first electric buses in operation at UCLA and UCSF.

### **Leasing programs are a tool to catalyze adoption rates**

Many OEMs also offer lease options to bus customers to reduce the upfront cost for transitioning to zero emission vehicles. BYD, for example, allows customers to buy the rolling stock for an electric bus for the same cost as a diesel bus and to lease the battery, thereby opening the door for large-scale deployments that are truly transformative. This arrangement allows fleets to make the transition while significantly mitigating their exposure to financial risks. Additionally, a leasing program makes it possible for shuttle companies to utilize operational savings to pay for the cost of the monthly battery lease payment. And, in an effort to almost completely remove risk for fleets transitioning to advanced technologies, some OEMs (including BYD) cover their batteries with a 12-year unlimited mile warranty.

### **Reliable funding is essential to ensure adoption**

Although financing options are available and provide some flexibility, support from the state remains critical to achieving the emission reduction goals that undergird the need for this rule. To ensure that the rule succeeds, BYD would like to reiterate the need for CARB and other state agencies to identify dedicated and reliable funding streams to help offset the incremental cost between zero emission buses and conventional buses, especially in the form of voucher programs such as HVIP. The strength of voucher programs is their convenience and agency staff should make it a priority to keep the redemption process as streamlined as possible.

### **The ASB rule will drive technology transfer and investment**

Accelerating the deployment of zero-emission trucks is critical to California's air quality goals, especially with respect to PM and NOx mitigation and control. Heavy-duty vehicles – especially buses and trucks – represent a significant source of these emissions. The ASB rule will help catalyze increasingly large orders of zero-emission trucks, both on- and off-road, and combat the emission of NOx and PM. This is because battery electric buses and trucks share the same drive train and power source technologies. It is important to note that the most expensive components of battery electric buses, like battery cells, electric motors and inverters, are the same components used to power battery electric trucks—only the chassis changes. Adoption of the ASB rule means that these economies of scale will become a reality in a shorter timeframe, allowing California to enjoy the air quality and economic benefits even faster.



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**Conclusion**

The ASB rule is a critical step forward to meet the challenges of climate change. The time to adopt the rule is now. BYD thanks the CARB Board Members and staff for their efforts in developing this plan as well as for the opportunity to provide comments. For questions or more information, please contact myself, Zach Kahn ([zach.kahn@byd.com](mailto:zach.kahn@byd.com)), or Vincent Wiraatmadja ([vincent@weidemangroup.com](mailto:vincent@weidemangroup.com)).

Sincerely,

Two handwritten signatures in black ink. The first signature is on the left and the second is on the right.

Sam Jammal  
Senior Manager  
BYD North America

