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# DOCKET

08-ALT-1

DATE JAN 22 2009

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January 22, 2009

Commissioner James D. Boyd  
Commissioner Karen Douglas  
Michael Smith  
Peter Ward  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

Re: Comments on the AB118 Investment Plan (CEC-600-2008-007-D-REV1)  
(Docket No. 08-ALT-I)

Dear Commissioners and CEC staff:

As a developer of clean energy and advanced vehicle technologies, AeroVironment, Inc. has been tracking the AB 118 process with great interest and appreciates the hard work and thoughtful consideration that has gone into the development of the recently released draft AB 118 Investment Plan. AeroVironment would like to submit the following comments on the draft Plan and brief background on our California-based company.

### *Company Information*

AeroVironment, Inc. is a California company founded in 1971 by celebrated physicist and engineer Dr. Paul MacCready, who Time magazine called one of the "greatest minds of the 20th century". Since its founding, AeroVironment has pioneered a succession of groundbreaking vehicles including the Solar Challenger, the Sunraycer, and the General Motors Impact. These and 30 other "world's first"; vehicles cemented AeroVironment's position as a premiere development facility for breakthrough vehicle systems. The company has grown into the leading supplier of fast charge systems for industrial electric vehicles, where AeroVironment has applied its unmatched battery and charge system expertise to improve electric and hybrid electric vehicle productivity and performance. AeroVironment has a long and proud history of collaboration with the state's leading agencies working on air quality, clean energy, and advanced transportation programs.

### *PosiCharge*

AeroVironment's PosiCharge EV fast charge systems have enabled thousands of industrial and specialty EVs in mission-critical roles, such as forklifts, airport ground support vehicles, short-haul trucks, and automated guided vehicles, to perform more work and use less energy than with yesterday's charging technologies. The technology behind



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PosiCharge grew out of AeroVironment's development of the modern electric car for General Motors. Introduced in 1989, the GM Impact was a breakthrough in EV design and systems integration. When tasked with finding a way to safely increase the useful range of electric battery packs, AeroVironment's team of engineers, scientists and battery applications experts developed PosiCharge. By combining high-current charging algorithms with intelligent thermal management, PosiCharge systems significantly reduce the amount of time required to charge electric vehicle battery packs while maximizing their range, performance and lifespan.

### ***EV Solutions: EV Charging Systems***

AeroVironment's EV Solutions features state-of-the-art electric vehicle fast charge technology, and is the evolution of the successful PosiCharge technology, which is now paving the way for the next generation of charging infrastructure for passenger and utility EVs. These technologies can provide the backbone of the public and fleet infrastructure needed for the next generation of passenger and utility EVs and PHEVs. More than a standard EV charger, AeroVironment's EV Solutions technologies are convenient, safe, and truly fast charging stations that recharge EV battery packs in less than ten minutes – providing a reliable and effective solution to the limited driving range of electric vehicles. Scheduled for commercial rollout in 2010, the EV fast charge system is a powerful tool that can help quickly enable the broader adoption of EVs.

### **Key Recommendations Regarding draft AB 118 Investment Plan**

AeroVironment is keenly interested in the AB 118 program as we believe our suite of electric vehicle charging technologies could be critical components of the state's EV program. The nature of AeroVironment's fast-charging capabilities can significantly enhance deployment of electric vehicles in ways conventional charging and battery technologies cannot accomplish alone. With this in mind, AeroVironment would like submit the following recommendations regarding the Investment Plan:

- AeroVironment strongly supports the draft Investment Plan's recommendation that AB 118 funds be used to support public access electric charging infrastructure and early adopter incentives for home and private fleet charging. AeroVironment's EV Charging Systems are well positioned to play a leading role in the rollout of California's EV charging infrastructure, and do so in line with the timeframe for deployment of on-road EVs – in 2010.
- AeroVironment also strongly supports the draft Investment Plan's recommendations for support of non-road demonstrations and deployment incentives. Our PosiCharge technology is the leader in charging support for off-road EVs, and is well suited to facilitate this type of program.
- As a California-based company with corporate, R&D, and manufacturing facilities in Monrovia and Simi Valley, we strongly support the draft Investment Plan's



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recommendation for manufacturing and production incentives, particularly manufacturing sales tax exemptions, enterprise zones, and local property tax exemptions. With over 700 employees, these incentives will help AeroVironment create California-based jobs in the cleantech marketplace as we deliver the products that will help the State meet its petroleum reduction and climate change goals.

- Finally, AeroVironment feels strongly that in order to provide adequate support in line with the critical timing for deployment of electric drive technologies, and to achieve California's ambitious 2050 climate change goals, the recommended **allocation for the "Super Ultra Low Carbon" category should be increased significantly**. We feel this is especially needed given the fact that hydrogen/fuel cell and electric vehicle technologies will be sharing funding in this important category, and together will be responsible for roughly 56% of the CO2 reductions needed in 2050. AeroVironment recommends increasing the allocation for Super Ultra Low Carbon Fuels/Technology in the draft Investment Plan from 23% of total program funds to 35%. A larger investment by the CEC on the order of roughly \$60 million for the Super Ultra Low Carbon category would also be in line with the large private sector investment being made globally in these technologies, thereby providing a greater opportunity to leverage investment and attract these resources to California projects and companies.

### Project Concept

AeroVironment believes its EV Solutions and PosiCharge technologies are critical components of any electric vehicle deployment plan because they provide power to vehicles in the safe yet expedient manner that California's motorists are accustomed to with conventional vehicles. Furthermore, EV Solutions adds value to EVs and PHEVs by resolving key issues with vehicle range. AB 118 funds can facilitate the installation of these systems, and the systems can greatly contribute to achievement of the Program's goals. The following is a broad vision for how this arrangement may look:

- AeroVironment believes 200 EV Charging Systems – 100 in the Greater Los Angeles area, and 100 in the San Francisco Bay area - would provide sufficient charging infrastructure to support the first wave of EV and PHEV introductions in California in 2010.
- Deployment of AeroVironment's EV Charging Systems in areas where early introduction of electric vehicles is planned will ensure EV motorists have access to a ten-minute battery charge when and where needed. PHEV drivers would be able to drive more miles in electric mode, thereby reducing emissions and fuel costs. Such coordinated deployment is a value-added proposition because it can enhance the range and performance of EVs and PHEVs.
- Additionally, 100 EV Charging Systems for fleet electric vehicles would support dedicated mobile vehicle fleet applications.
- At \$15,000 per installation, this represents an investment of \$4.5 million and would ensure sufficient, rapid, and safe charge capacity to support the wave of EVs expected in the 2010 timeframe.



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AeroVironment appreciates the opportunity to comment on CEC staff's draft Investment Plan. We appreciate the tremendous work that has gone into this plan and recognize the great effort made to balance program goals and objectives. This important program has the potential to help California achieve its ambitious climate change goals as well as stimulate green jobs and economic development in the State. AeroVironment looks forward to playing a key role in moving California to a more prosperous and sustainable future.

Sincerely,

A handwritten signature in cursive script that reads 'Kristen Helsel' followed by a small circular mark containing the letters 'CH'.

Kristen Helsel  
Director of EV Chargers

cc: Panama Bartholomy