

**AB 118, Alternative and Renewable Fuel and Vehicle Technology Program  
Docket Number 08-ALT-1**

**California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 08-ALT-1  
1516 Ninth Street  
Sacramento, CA 95814-5512**

<b>DOCKET</b>	
<b>08-ALT-1</b>	
DATE	FEB 20 2009
RECD.	FEB 23 2009

**Submission of Docket Comments to the California Energy Commission (CEC)  
By Smith Electric Vehicles (SEV)**

**February 20, 2009**

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Overview:

Smith Electric Vehicles is pleased to submit the following comments for public review to Docket No. 08-ALT-1, the CEC AB 188 docket for the California Alternative and Renewable Fuel and Vehicle Technology Program. Our comments focus upon the viability of a medium-duty, Class Seven all-electric commercial truck, specific for the California marketplace, how this vehicle would benefit the goods movement, health, and energy challenges of The State, and why this class of vehicle should be given serious consideration for CEC AB 118 funding.

Conceptually, “full” ZEV commercial trucks exhibit no tailpipe emissions of nitrogen oxides or particulate matter, and no greenhouse gas emissions. Founded in 1920, Smith Electric Vehicles (SEV) is the world’s largest manufacturer of zero-emission trucks, producing a range of commercial electric vehicles with Gross Vehicle Weight Rating (GVWR) up to 26,000 pounds encompassing the medium duty vehicle (MDV) and heavy-duty vehicle (HDV) classes. They are full ZEVs consistent with the definition and characteristics noted above, have acceleration and top speed commensurate with, or exceeding their diesel or gasoline powered counterparts, and are capable of a daily driving range of approximately 100 miles on one single battery system charge. The product range is designed for urban applications such as deliveries, food and beverage distribution, third-party logistics, construction, utilities, airports and public sector operations. Because conventional vehicles used in these types of applications typically operate at less than 100 miles per day, their duty-cycle is tailor-made for an MDV commercial all-electric vehicle and encompasses the product line of all-electric truck manufactured by SEV.

Specific to this first year of CEC AB 118 funding, SEV will be introducing the Newton Class 7 MDV into the California marketplace. Available in three weight categories of 16,000, 22,000 and 26,000 GVWR, Newton introduction into California builds upon the full commercialization and manufacturing of these vehicles in the United Kingdom (UK) and Europe. As such, this is not an R & D program, but a US-specific applications program responding to the environmental, energy and economic needs of the State of California.

As an alternative fuelled vehicle, the unit purchase price will be higher than a comparable gasoline or diesel-powered truck. As such, external funding to fully or partially bridge this gap is essential for deployment. Unfortunately, battery electric vehicles (BEVs) of this class are unique and no known applicable or eligible funding streams exist. Similarly, vehicles used in these types of applications frequently run less than 100 miles per day, further limiting their eligibility for existing grant programs. California-based programs such as the Carl Moyer program as well as Prop 1b funds, only apply to Class Eight heavy-duty diesel trucks.

The Draft Staff Paper for the CEC AB 118 Program proposes a specific set of fund allocations, encompassing LDVs, and MDV/HDV vehicles using NG, hybrid, and other technologies, but not specifically the MDV/HDV BEV technology, described above. Given the attributes of the Smith MDV/HDV BEV, Smith Electric Vehicles is requesting inclusion of MDV/HDV BEVs for CEC AB 118 funding.

### Economic Benefit for California:

Introduction of the Newton will benefit The State of California through two key mechanisms. In the first, more efficient BEV operation, when compared with a conventional commercial MDV or HDV, optimizes goods movement. The Newton is driven much like a conventional truck with no special training required. As such, deployment into the California marketplace as an efficient goods movement carrier is simple and immediate. Furthermore, the simplicity of the truck, when compared with conventional trucks, results in dramatically reduced maintenance and repair downtime, again optimizing California goods movement.

The second mechanism that will benefit California's economy involves the manufacturing of the Newton itself. Three California-based suppliers will provide key primary components for the Newton as follows:

1. Power access, Fresno.
2. Primary traction motor, Torrance.
3. Fast charging system, Monrovia.

These essential providers will be expanding production to accommodate the Newton SEV production demand, creating "Green Jobs" in 2009 and 2010 for California.

### Emissions Benefits:

Reduced emissions and other environmental benefits are achievable with a Newton-class BEV through three mechanisms. First, as is typical of LDV BEVs, the Newton MDV BEV operates as a "pure" ZEV, emitting no criteria, HAPS<sup>1</sup> or GHG emissions. Second, emissions are minimized in the manufacture of the Newton, as well. Since the truck chassis itself is nearly identical to its conventional counterpart, no benefits are gained in the chassis manufacturing process. However, benefits are gained in the manufacture of the drivetrain. With orders of magnitude less

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<sup>1</sup> Hazardous Air Pollutants

components for the electric vs. diesel drivetrain, less manufacturing emissions are possible. Finally, the reduced “clean” maintenance of the electric drivetrain, when compared to a conventional internal combustion engine, provides an overall environmental benefit through reduced use of cleaning aerosols, lubricating oil disposal, etc.

#### Energy Benefits:

The Newton BEV, much like a LDV BEV uses no direct-fill fossil fuel for power. A fully plug-in vehicle, MDV/HDV BEVs such as the Newton rely on power plant-generated electricity which is typically considerably more energy efficient than vehicles fueled at their source.

#### Commercialization:

SEV has addressed commercialization in three areas. First, as noted earlier, the Newton represents a fully-commercialized truck for the UK and European market. Its introduction and deployment represents a technology transfer and application to the unique requirements and characteristics of California, and not an R & D program. As such, technical challenges are minimal, and benefits to the economic, energy and environment of California are immediate.

The second area of commercialization involves fleet pre-qualifying. SEV has assembled a list of nationally-recognized fleet operators from a variety of industry segments who are interested in immediately purchasing ZEV trucks and participating as U.S. Launch Partners. California is a major market for these fleets, and, as such, SEV seeks the assistance under the CEC AB118 program for grant funding to facilitate the deployment of these trucks, and complimentary electric charging infrastructure for the California market. The plans include a one-hundred and fifty (150) zero-emission vehicle deployment in California in 2009.

The third and final area of commercialization involves the manufacturing of the truck itself. SEV has committed to US-based truck manufacturing and is in the final stages of facility development with Newton Class 7 BEVs scheduled to be rolling off the US-based assembly line this July (2009) for California deployment. SEV is leveraging the long history and experience of the UK-based operation to expedite manufacturing in the US.

#### Electric Charging Infrastructure:

SEV has developed a two-stage approach to truck battery charging. In the first stage, absent a comprehensive, fully-commercialized electric charging infrastructure, the Newton incorporates a complete on-board charging system requiring only 220 volt, three-phase outlet with a conventional plug (identical to a consumer electric dryer outlet). Charging time with this configuration is approximately three hours. In the second stage, SEV is working with key project partners to develop an optional off-board charging system which would reduce charging time to one hour. The benefits to California with this system are significant, not only in attracting more commercial customers, but facilitating retail fast-charging sites throughout

California. Operational benefits for the Newton itself include a) a lighter weight vehicle which will increase range, payload and overall commercial fleet market effectiveness, and b) reduced charging downtime, both enhancing goods movement. Benefits for the State of California center around facilitating a statewide, robust, commercialized charging infrastructure that would promote BEV use for all weight classes for both the commercial and consumer markets.

SEV appreciates the opportunity to provide these comments to the docket in support of the CEC AB 118 Alternative and Renewable Fuel and Vehicle Technology Program and looks forward to working with CEC Staff on this important program, critical for the state of California.

Respectfully submitted,

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Smith Electric Vehicles