



<b>Classification:</b> Air Resources Engineer	<b>Position No.</b> 6100-3735-005
<b>CBID:</b> R09	<b>Office:</b> Advanced Vehicle Technologies Office
<b>Date Prepared:</b> May 8, 2018	<b>Division:</b> Fuels and Transportation
<b>KEY: (E) IS ESSENTIAL, (M) IS MARGINAL</b>	

Under the supervision of the Energy Resources Specialist III (Supervisory) in the Advanced Vehicle Technologies Office of the Fuels and Transportation Division, the incumbent will perform engineering calculations and analyses related to the use of alternative fuels and propulsion systems, including electric and electric-hybrid propulsion systems. The incumbent will serve as a School Bus Retrofit and Replacement Program (School Bus Program) and an Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) resource for evaluating technologies including battery and fuel cell electric drive systems, electric vehicle charging infrastructure, and electricity grid and delivery improvements. The incumbent will also serve as an ARFVTP resource on the science and technologies applied in California’s existing and planned refueling infrastructure. The incumbent will participate in team settings to analyze the efficacy of data and specifications provided by Original Equipment Manufacturers and other stakeholders, determine engineering cost effectiveness, analyze lifecycle and full fuel cycle impacts, and perform other quantitative comparisons of transportation fuels and technologies. The incumbent will conduct the analyses in concert with the requirements of the Alternative and Renewable Fuel and Vehicle Technology Program to stimulate alternative fuel use in the transportation sector, to help attain climate changes goals, reduce vehicle costs, improve vehicle operating efficiencies, expand alternative fueling infrastructure, and improve consumer preferences for alternative fuel vehicles.

**WORKING CONDITIONS:**

The work is performed in an indoor office and meeting room setting involving sitting, standing, and walking. The candidate must work well with people inside and outside the Energy Commission, including members of the general public. Travel may be required to attend workshops, hearings, and meetings. Additional hours beyond an eight-hour workday or forty-hour workweek may be required. While performing the duties described below, the incumbent will be required to work alone and/or in a team environment, using a personal computer and appropriate Energy Commission software such as word processing, electronic mail and Internet; participate in and lead meetings with other staff and with other agencies.

**DUTIES AND RESPONSIBILITIES:**

30% Perform complex calculations, analyses, and assessments to facilitate the development and deployment of alternative fuel vehicles, including electric drive vehicle applications. Conduct engineering economic analyses that consider environmental and economic impacts. Responsibilities include the identification, assessment and prioritization of innovative cost-effective transportation strategies that reduce criteria and toxic air pollutants, including greenhouse gases. Establish effective working relationships with individuals in other government agencies and industry stakeholders to ensure that the Commission and ARFVTP have access to current technology information from vehicle, engine, and component part



manufacturers. Provide analyses to identify state-of-the-art electromechanical systems that maximize efficiency while minimizing costs to California and the consumers. Incumbent will be responsible for concept review, development, implementation, and evaluation of next-generation systems and technologies, including electric charging protocols relative to competing battery technologies (including ultra-capacitors, flywheels, and fuel cells), and electricity supply and distribution. Communicate ideas, calculations, analyses, plans, and results effectively via presentations and written reports. Make funding recommendations to support the commercialization and deployment of the technologies for the program Investment Plan, as necessary. (E)

- 30% Serve as a resource to evaluate alternative fuels infrastructure barriers. Perform complex calculations and analyses to support the development of alternative fuel infrastructure including electric vehicle charging systems (110V to 480V). Conduct analyses on anticipated impact on current infrastructure plans including electricity loads created by the deployment of plug-in electric vehicles. Prepare testimony based on engineering evaluations of technical and cost elements of ARFVT proposals. (E)
- 30% Review and evaluate Program proposals, project plans, specifications, estimates, and budgets with consideration of technical feasibility. Ensure that federal, state, and local safety regulations are met. Perform contract, grant, and project management for alternative fuel and advanced vehicle technology projects, including electric drive and recharging applications. Prepare work statements, budgets, schedules, special conditions, and measurable technical and economic objectives which will be used to determine project success. Establish and maintain technical and business relationship with the funding recipient, initiate amendments, perform technical reviews of monthly progress and work conducted by funding recipient, and review invoices. Conduct site visits to determine that construction conforms to the project design and technical specifications as stated in the grant agreement; meet and discuss project specifications with the project engineer; determine deviations, if any, from original specifications, and identify the changes, why the changes were made, and if the changes were in the project's best interest. (E)
- 5% Conduct education, training, and outreach programs for stakeholders including fleet managers, consumers, and other identified groups to provide exposure to and understanding of alternative fuel vehicles, recharging and fueling stations, costs, performance attributes, and benefits of improved technologies and emerging alternative fuels. (M)
- 5% Perform other duties as required consistent with the specifications of this classification. (M)

Signatures	
I CERTIFY THAT I AM ABLE TO PERFORM, WITH OR WITHOUT THE ASSISTANCE OF A REASONABLE ACCOMMODATION, THE ESSENTIAL DUTIES OF THIS POSITION.	
VACANT AIR RESOURCES ENGINEER	ELIZABETH SHIRAKH ENERGY RESOURCES SPECIALIST III (SUPERVISORY)
DATE	DATE