Solectrac, Inc.
20FD04

Bay Area Air District FARMER Demo Grant Final Report
March 11, 2026

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Executive Summary

Disclaimer: The statements and conclusions in this Report are those of the grant recipient and not those of the Bay Area Air District or the California Air Resources Board. The mention of commercial products, their source, or their use should not be construed as actual or implied endorsement of such products.

Program Background
This project was funded through the Zero-emission mobile agricultural equipment demonstration program administered by the Bay Area Air District (Air District) and funded by the California Air Resources Board (CARB) using Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program funds from California Climate Investments (CCI).

Bay Area Air District
The Air District is the public agency entrusted with regulating stationary sources of air pollution in the nine counties that surround the San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties. The California State Legislature created the Air District in 1955 as the first regional air pollution control agency in the country, recognizing that air pollution transcends political boundaries. The nine counties of the Bay Area form a regional air basin, sharing common geographical features and weather patterns, and therefore similar air pollution burdens, which cannot be addressed by counties acting on their own, www.baaqmd.gov.

California Air Resources Board
CARB is charged with protecting the public from the harmful effects of air pollution and developing programs and actions to fight climate change. From requirements for clean cars and fuels to adopting innovative solutions to reduce greenhouse gas emissions, California has pioneered a range of effective approaches that have set the standard for effective air and climate programs for the nation, and the world. CARB's mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy. CARB is the lead agency for climate change programs and oversees all air pollution control efforts in California to attain and maintain health-based air quality standards, www.arb.ca.gov.

Solicitation Information
The project solicitation was released on March 6, 2020, and applications were due on April 25, 2020. The Air District's project solicitation offered up to $1 million for projects that demonstrate mobile, zero-emission equipment in Bay Area agricultural operations and achieve significant reductions in greenhouse gas emissions, criteria pollutants, and toxic emissions. Funding up to 75% of the eligible project costs was available for equipment that remained in operation for at least one year after completion of the demonstration period from June 1, 2021, to June 1, 2022, and the equipment was returned to the manufacturer. An additional funding of 5%, for a maximum funding level of 80% of the eligible project costs, was available for equipment that remained in operation for at least one year after the completion of the demonstration period which would total two years of operation.

Project Information
Solectrac, Inc. is a California benefit corporation and Certified B Corp that manufactures electric tractors to reduce greenhouse gas emissions, criteria pollutants and toxic emissions in agricultural operations. Solectrac was selected to participate in this demonstration project of the Air District's FARMER Program to demonstrate four models of mobile, zero-emission equipment in a variety of Bay Area agricultural operations and to test the viability of its electric tractor models to replace diesel tractors in daily operations. The grant award funded one eUtility electric tractor, three e70N electric tractors, and an exchangeable battery pack for each of the four tractors.

Solectrac's project objectives were to: 1) demonstrate the viability of Solectrac's >40 HP electric tractors, including the eUtility and the e70N; 2) show the operational and economic feasibility of replacing diesel tractors with these zero emission electric tractors for a minimum of one year in routine agricultural operations; and 3) demonstrate significant reductions in diesel fuel use, greenhouse gas emissions and criteria pollutant emissions within the boundaries of the Bay Area Air District.

The early stages of the project were significantly impacted by the roughly 6-month supply chain delay caused by the covid-19 pandemic, which began in Year 1 of the project. The biggest impact was on the development and building of the three e70N units, which were still in the research and development phase at the time of the grant award. The timeline for development and testing the new e70N model was thus extremely compressed, resulting in many lessons being learned and requiring multiple equipment upgrades post-deployment.

During the first two years of the grant's operational period (July 2021 - June 2023), Solectrac's e70N units – the first of their kind – underwent many upgrades and a few repairs which collectively required significant periods of operational downtime. As a result, our project partners were not able to fully achieve the targeted number of operational hours during this phase of the project. A one-year extension of operational time (through June 2024) was granted to continue to track operational hours and meet the grant's requirements.

When used in field operations, the ZEVs were especially effective in many kinds of operations including hauling, towing, mowing, and vine trimming. Operators and nearby workers reported a preference for the electric tractors due to their quiet operations and torque. Battery run time was challenged by heavy work in wet or compacted soils, or by legacy implements requiring hydraulic power. Upgrades were required to improve the tractors' functionality, data logging and run time.

This report summarizes the ZEVs' development, deployment, upgrades and repairs during the first two years of operations under this grant.

Air District Addendum
The Air District has added an addendum to this report to document the circumstances that prevented Solectrac, Inc. from finalizing this report and meeting the minimum equipment usage requirements under this program. It also explains the Air District's decision to grant a waiver for these requirements and to close out the project.

Funding Source Acknowledgement

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FARMER Program
In 2017 the California Air Resources Board (CARB) developed the Funding Agricultural Reduction Measures for Emission Reductions (FARMER) Program to meet the Legislature's objectives and help meet the State's criteria, toxic and greenhouse gas emission reduction goals. The Air District has participated in the program since it was developed and administers FARMER program opportunities for the San Francisco Bay Area. In October 2019, CARB added additional project types to the FARMER program, including Advanced Technology Demonstration Projects.
(CARB FARMER Guidelines: https://ww2.arb.ca.gov/our-work/programs/farmer-program)

Funding Source Acknowledgement
The FARMER Program is part of California Climate Investments, which uses billions of Cap-and-Invest dollars to fund projects that reduce harmful emissions, protect public health, strengthen local economies, and support natural environments. With a strong focus on communities most impacted by pollution and limited access to resources, California Climate Investments helps build a more equitable and sustainable future. For more information, visit the California Climate Investments website: http://www.caclimateinvestments.ca.gov/.

Through this demonstration project, the Air District offered up to $1 million for projects to demonstrate mobile, zero-emission equipment used in Bay Area agricultural operations and achieve significant reductions in GHG, criteria pollutants, and toxic emissions. The grant supported field demonstrations to test the vehicles' viability and to determine whether they can serve the same function and perform the same work as the diesel vehicle or equipment they would replace.

Solectrac, Inc. was awarded a grant of up to $514,688 to develop, build and deploy four (4) zero emissions tractors plus an exchangeable battery pack for each tractor; the project included one eUtility,

a 40-hp equivalent 2-wheel drive model, and three e70N units, a 70-hp equivalent 4-wheel drive narrow-gauge model.

For a full copy of this report please reach out to grants@baaqmd.gov or 415.749.4994.