

County of Santa Clara
Office of the County Executive
Office of Budget and Analysis




FGOC-CE03 120805

Prepared by: Anne Gendron-Thompson
Principal Budget and Public
Policy Analyst

DATE: December 8, 2005

TO: Supervisor Pete McHugh, Chairperson
Supervisor James T. Beall, Jr., Vice-Chairperson
Finance & Government Operations Committee

FROM: 
Gary A. Graves
Chief Deputy County Executive

SUBJECT: Quarterly Status Report on Fuel Cell Advancement Initiative

RECOMMENDED ACTION

Accept status report on advancement of Fuel Cell Initiative adopted by the Board on September 14, 2004

FISCAL IMPLICATIONS

Acceptance of this report will not impact the General Fund. It is anticipated that future funding to support this effort will come from grants, earmarks, settlements that specify alternative energy use, and other forms of outside funding.

REASONS FOR RECOMMENDATION

This report is provided as an update on the progress that has been made toward the advancement of fuel cell use in Santa Clara County in the areas of Legislation, Vehicles, Buildings, and Planning. The last status report was submitted to the Board on September 13, 2005, as part of the Finance and Government Operations Committee report.

The FY 2006 Federal Earmark request, submitted by Representative Mike Honda, has been included in the Energy and Water Conference Report in the amount of \$1.5 million. This bill was approved by the House of Representatives in November and Senate approval, as well as Presidential signature, is anticipated.

The earmark request would fund fuel cell power generation demonstration projects at Vasona County Park and at another County facility. The Vasona Park site would be co-located with the Youth Science Institute (YSI). The fuel cell installation would generate power for a building to be constructed by YSI, produce hydrogen for use in County fleet vehicles, and be fully integrated into YSI's K-12 science education curriculum. An additional fuel cell demonstration project site would be chosen with potential sites including 24/7 facilities such as Elmwood Jail, the County's 911 Communications Center, or various Health and Hospital facilities.

The earmark may require a local match of up to 50%. The Administration is exploring various options to meet the match requirement.

AB 1660 (Pavley), a measure supported by the Board of Supervisors to create an Energy-Efficient Vehicle Group Purchase Program within the State Department of General Services, was signed by the Governor. AB 1660 requires the department to establish an advisory committee with representatives from counties, cities, school boards, special districts, community colleges, and state agencies that would negotiate contracts at the lowest possible purchasing price for alternative fuel and hybrid vehicles. It is thought that the County could realize substantial savings by pooling vehicle purchases at a discounted price and reduce air pollution emissions by increasing the use of hybrid and alternative fuel vehicles.

VEHICLES

The County of Santa Clara Fleet Management Department continues to focus on alternative fuel vehicles and emissions reductions. The present County Fleet includes 39 Hybrid Vehicles, 50 Neighborhood Electric Vehicles, 26 Electric Forklifts and Electric Taylor Dunn Carts, and 9 Propane Forklifts. All are light duty for a total of 129 Alternate Fuel Vehicles.

Ultra-Low Sulfur Diesel (ULSD)

ULSD fuel is required for PM traps and catalytic converters to function effectively. Refineries were required to have nationwide production and availability by September 2006, however hurricane impacts to refineries have relaxed production requirements. The EPA has provided a 45-day extension for terminals and retail outlets to comply with the 15ppm standard, moving the retail compliance date to October 15, 2006. County Fleet has been purchasing ULSD since September 2005. The effects of reduced lubricity associated with the fuel may have contributed to premature fuel pump failures in County buses. Fleet is closely monitoring the effects of the fuel going forward.

Retrofit Devices

15 of 22 catalytic converters were installed on County vehicles. Installation took place November 11 to November 13, 2005. Installation and parts were billed direct to Bay Area Air Quality Management District (BAAQMD) under the BAAQMD Particulate Matter (PM10) retrofit grant program guidelines. Remaining installations will occur prior to December 2005.

Roads Department staff began working with Air Board staff in August 2005 to determine if PM Retrofit Program grants were available. Air Board staff submitted a finalized contract to Roads on October 12, 2005 and the Roads Department submitted a completed Diesel PM10 Retrofit Program contract to the Air Board on October 19, 2005. While the current amount of this grant is only \$3,000, Air Board representatives urged Roads Department staff to prepare and submit this contract as a placeholder prior to all new requests being routed to the Carl Moyer Program.

While all of the \$2 million allocated to the Diesel PM Retrofit Program has been awarded by the Air Board, it is anticipated that current grant recipients may return a portion of their grant funds as unexpended, primarily due to using less expensive retrofit strategies. Should some grant funds be returned to the Air Board, these returned dollars will be reallocated to the Roads Department contract through an amendment by the Air Board.

BAAQMD funds for PM10 retrofits for trucks have been exhausted, and requests are now being transferred to the Carl Moyer Grant Program.

Data-loggers were acquired on loan, free of charge to the County, so that Fleet could install the devices on the Roads and Airport Department equipment. Fleet is currently working to record information needed to evaluate best emission reduction strategy for this equipment. Grant funding for the Roads and Airports Department is likely. At present the Roads and Airports Department has 110 vehicles that will be affected by emission control strategies.

SIGNIFICANT EVENTS ATTENDED BY FLEET MANAGEMENT

August 15, 2005:

California Air Pollution Control Officer's Association conference; Diesel Emissions Reduction for Public Agency and Utility Fleets. The two day conference addressed diesel reduction methodology and included re-powering diesel engines to natural gas, retrofit devices to trap particulate matter pollution, and diesel fuel alternatives such as bio-diesel, emulsified fuel and ultra-low sulfur diesel. Speakers included various vendors, California Air Resource Board members, and representatives from the Bay Area Air Quality Management District. Information and analysis of alternatives and available grant funds validated department decisions to pursue grant funds for retrofit catalytic trap devices to best reduce emissions on current fleet. Conference was attended by Fleet Management and the Roads and Airports Department.

August 22, 2005:

Communication received from Bay Area Air Quality Management District regarding Vehicle Incentive Program for FY07. Program reflects similar opportunity from FY06; \$2,000.00/vehicle hybrid rebate. Fleet Management intends to pursue this grant based on approved vehicle replacement purchases for FY07.

August 23, 2005:

CalTrans hosted a grant workshop in Oakland. Four grant package opportunities were outlined: Environmental Justice, Community Based Transportation Planning, Partnership Planning, and Transit Planning. For purposes of stationary hydrogen fuel cell as alternative power source for the County of Santa Clara, Fleet Management recommended the Environmental Justice Grant to the Office of Budget and Analysis. Fleet assisted in writing an application for this grant.

August 24, 2005:

A response was provided to Gwen Mitchell, Director of the Office of Public Affairs, for information relative to County fleet and fuel consumption. Information was sent to the media and a phone interview with the Fleet Manager occurred. No additional actions resulted after the interview. A reporter mentioned that the County had a high ratio of alternative fuel vehicles, and below average fuel consumption, relative to other municipalities.

August 25, 2005:

The Fleet Manager attended a forum at the California Air Resource Board (CARB) to discuss implications of South Coast Fleet Rules considered for adoption in the Bay Area. The rules specifically pertained to requirements of zero emissions street sweepers and trash trucks that would affect the Roads and Airports Department. CARB has always been fuel neutral in pursuit of fleet emissions reductions. Recently, the South Coast rules left sweepers and garbage trucks in Long Beach out of service during a severe natural gas shortage.

September 6–10, 2005:

Communications transpired with General Motors and Ford Motor Company Fuel Cell vehicle representatives. The County's letter of intent to acquire a demonstration fuel cell vehicle was received by Original Equipment Manufacturers (OEM), partners of the California Fuel Cell Partnership. The Ford Motor Company has a medium duty bus available and will consider the County for future light duty vehicles. General Motors anticipates choosing a demonstration partner in early 2007, based on availability of technology, and will continue communications with the County.

September 16, 2005:

The California Air Resource Board voted not to adopt South Coast rules, pertaining to zero emission sweepers and garbage trucks, for the Bay Area.

September 16, 2005:

Sustainable Silicon Valley Educational Forum; California Fuel Cell Partnership presentation. Attended by Fleet Management and Building Operations, the presentation included a fuel cell vehicle overview and subsequent question and answer session.

September 30, 2005:

California Fuel Cell Partnership Road Rally; vehicle demonstration at San Jose State University campus. The rally had representatives from all OEM partners and provided an opportunity to advertise the County's letter of intent to acquire a fuel cell demonstration vehicle.

October 26, 2005:

West Valley College Center for Advanced Transportation Technology; "Change the Future" conference to highlight hydrogen fuel cell vehicles. Presenters included the California Fuel Cell Partnership, California Air Resource Board, and the Santa Clara Valley Transportation Authority. Topics included a review of the California Hydrogen Highway, new hydrogen station construction in Menlo Park and the availability of hydrogen demonstration vehicle grants from CARB in 2006. As a result of attending this meeting, the Fleet Manager was invited to a grant workshop at the Air Resource Board on October 28, 2005.

October 28, 2005:

Air Resource Board Grant workshop; request for input at California Hydrogen Highway (SB76) workshop. SB76 provides \$6.5 million for state sponsored hydrogen demonstration projects. OEM vendors and hydrogen station engineers attended the workshop to discuss how CARB should develop an ITB (Invitation to Bid) for hydrogen vehicles and hydrogen fuel stations. CARB intends to purchase vehicles and loan them to end users through a grant program. The County would be an eligible user.

November 22, 2005:

Bay Area Air Quality Management District (BAAQMD) Grant Workshop; Carl Moyer Program Grants to Reduce Diesel Emissions held at the Santa Clara Valley Transportation Agency auditorium. Approximately \$2.5 million was announced as available for next year. Grant applications are due by December 22, 2005. Three program projects for diesel equipment: Repower—changing engines to yield emissions reductions greater than 15%; Retrofit—install CARB-verified device to reduce emissions greater than 15%; Purchase new vehicle—engine must be at least 30% cleaner than the normal baseline standard for new engines. Applications will receive higher credit when vehicles operate in AB 1390 areas (high pollution areas designated by CARB). AB 1390 identified areas will be listed on the BAAQMD web site on December 10, 2005.

All opportunities listed are ineligible when legislation is passed for requirement of emission reductions. To circumvent loss of grant eligibility, Fleet Management intends to apply for several on-road engine retrofits as the department will have met the 20% required retrofits.

BAAQMD states that through 2012, Carl Moyer Grant funds will increase from \$2.5 million to \$10 million annually. Next year's program will include Fleet Modernization, an opportunity to replace older vehicles with grant funding. This will be a primary focus for the department.

The Roads Department attended this workshop and is communicating with Fleet Management to apply for grant funds as well.

BACKGROUND

The following chronological history provides a summary of activities in support of fuel cell advancement since the adoption of the initiative.

09/14/04 – Board adopted Santa Clara County Fuel Cell Advancement Initiative (Attachment A)

10/15/04 – Application for Caltrans Planning Grant submitted

10/19/04 – Board approved Work Plan framework

01/09/05 – Mercury News Article – "A New Energy, Silicon Valley players are on the hunt for breakthroughs in alternative-power technology—and venture capitalists are taking notice"

01/28/05 – Presentation to County Fuel Cell Working Group by Chevron Texaco and FuelCell Energy, Inc.

03/01/05 – Administration submitted \$2.5 million Earmark request

03/01/05 – Board accepted quarterly status report

04/01/05 – Presentation to County Fuel Cell Working Group by Ion America

04/15/05 – Presentation to County Fuel Cell Working Group by Plugpower Fuel Cell Systems

04/19/05 – Board accepted status report and delegated authority to Facilities and Fleet to submit letters of interest to acquire a demonstration fuel cell vehicle

05/06/05 – Joint Presentation – County of Santa Clara and California Fuel Cell Partnership presented hydrogen-powered demonstration vehicles and information to regional public and private participants

05/23/05 – Mercury News Article – "Jump-starting the Hydrogen Car Dream"

07/18/05 – Received rejection letter from CALTRANS Planning Grant

07/21/05 – Letter of interest to acquire a fuel cell vehicle submitted to OEM (Operating Equipment Manufacturers) Members of the California Fuel Cell Partnership

08/15/05 – CAPCO County Administrators –sponsored conference regarding Particulate Matter emissions attended by Fleet Manager and Roads Department

08/23/05 – Caltrans–sponsored conference regarding available grant funds attended by Fleet Manager

08/25/05 – California Air Resources Board Forum

09/13/05 – Board accepted quarterly status report

09/16/05 – Sustainable Silicon Valley Educational Forum; California Fuel Cell Partnership presentation

09/30/05 – California Fuel Cell Partnership Road Rally at San Jose State University campus

10/14/05 – Application for Caltrans Planning Grant submitted

10/26/05 – West Valley College Center for Advanced Transportation Technology "Change the Future" conference

10/28/05 – Air Resource Board Grant workshop

11/22/05 – BAAQMD grant workshop

12/8/05 – Quarterly Status Report to Finance and Government Operations Committee

ATTACHMENTS

-
- Fuel Cell Initiative