MGWB COMTE.: 10/20/05
ITEM: b

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: MAKING GOVERNMENT WORK BETTER COMMITTEE

FROM: William F. Sherry, A.A.E.

SUBJECT: **SEE BELOW**

DATE: October 7, 2005

Approved

Date

SUBJECT: UPDATE REPORT ON COMPRESSED NATURAL GAS FACILITY AT MINETA SAN JOSE INTERNATIONAL AIRPORT

RECOMMENDATION

Accept this report regarding the Compressed Natural Gas fueling station at the Mineta San José International Airport.

BACKGROUND

In April 2005 the Airport presented to the Committee a report on the Compressed Natural Gas (CNG) fueling facility located within Mineta San José International Airport (SJC). The discussion on the report generated several questions which were directed to staff for further study. The Committee accepted the April 2005 report and staff was directed to provide an update report addressing the following questions and issues:

- CNG Station and Taxi Operations
- Benchmarking CNG Station Operations at Other Airports
- Investigating Solar/Photo – Voltaic Power at the CNG Station
- Assessing the Contract with Pinnacle Relative Station Marketing
- Assessing Financing Opportunities for Conversion of Ground Transport Fleets

ANALYSIS

CNG Station and Taxi Operations

The City recently established an agreement with Taxi San José to dispatch and manage taxi services at the Airport. This new agreement established a limit on taxi operating permits and established parameters that address how often a taxi vehicle may operate at the Airport. For the purpose of promoting the use of alternative fuel vehicles by taxi operators, the new taxicab driver permits include an incentive that allows alternative fuel taxi vehicles to service the Airport on a daily basis at the Airport. Non-alternative fuel vehicles are allowed to access the Airport every

other day. The Airport's Clean Vehicle Policy established in 2001 promotes the use of alternative fuels (non-gasoline, non-diesel) for vehicles operating at the Airport. It identifies current clean vehicle technologies as natural gas, electric and hybrid. The current policy, however, is neither specific nor predicated on vehicle emission levels and/or vehicle certification status.

The incentive provided by the new taxi driver permits has created interest and movement relative to the use of alternative fuel vehicles by taxi operators. However, current automotive technology has created a greater pool of low emission, CARB certified vehicles than what was available in 2001. The Airport has committed to the taxi vehicle operators to examine the Airport's Clean Vehicle Policy and align it with current industry standards. This alignment may accept vehicles that do not use CNG fuel but do meet or exceed past and possibly future CARB low emission vehicle certification criteria. The information below illustrates that under current CARB rules vehicle certification levels have progressed well beyond the ULEV and SULEV levels in place in 2001.

DRIVECLEAN.CA.GOV STANDARDS:

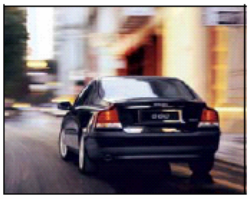
All new vehicles sold in California must be certified by the California Air Resources Board (ARB) under one of six emissions ratings. The ARB has established the following criteria for 2004 model year vehicles to be featured on DriveClean.ca.gov. This criteria promotes vehicles that meet the most stringent emissions standards and have an important role in the progression of zero emission technology. As fleets get cleaner, the ARB will re-evaluate these criteria so that the least polluting vehicle options are represented on this web site.

Clean Vehicle Samples From DriveClean.ca.gov:

2004 Subaru Legacy 2.5 GT Wagon
Cleanest Gas Vehicle
Emission Rating: PZEV
Price: $26,195 - $27,195
Fuel Economy: 22 city/28 hwy MPG
5 Passenger
Cargo Volume: 34.3 cu. ft.

2004 Toyota Prius
Hybrid Vehicle
Emission Rating: AT PZEV
Price: $19,995
Fuel Economy: Mid 50's MPG
5 Passenger
Cargo Volume: 14.4 cu. ft.

2004 Honda Civic GX - CNG Vehicle
Alternative Fuel Vehicle
Emission Rating: AT PZEV
Price: $20,760
Fuel Economy: 30 city/34 hwy MPG
4 Passenger
Cargo Volume: 7.0 cu. ft.



2004 Volvo 2.4 S60 Sedan
Cleanest Gas Vehicle
Emission Rating: PZEV
Price: $26,960
Fuel Economy: 22 city/31 hwy MPG
5 Passenger
Cargo Volume: 13.9 cu. ft.

Source: DriveClean.ca.gov

When the Airport established its Clean Vehicle Policy in 2001, the CNG vehicles allowed by the policy were designated as SULEV level vehicles. SULEV certification can now be achieved or exceeded by a variety of vehicles, including gasoline fuel vehicles. Research indicates that 37 gas-powered vehicle models were certified to PZEV standards in 2004, and this number is expected to increase greatly in coming years. It is evident that technology may lead in a direction that results in a reduced market for CNG vehicles, particularly within the passenger vehicle market.

The CNG station is one element in the Airport's Clean Air Program (CAP). The CAP has evolved and should continue to evolve to support the Airport's efforts to comply with the spirit of the California Air Resource Board's (CARB) air quality certification of the Environmental Impact Report (EIR) to the Airport's Master Plan. Optimally, the Clean Vehicle Policy will provide taxi operators with viable, affordable and accessible vehicle choices that facilitate effective ground transportation and at the same time increase the number of low emission vehicles operating at the Airport. Properly framed, the question to be answered is: what policy will promote the use of the lowest emission vehicles on the market and provide effective taxi operations? Airport staff is in the process of evaluating this issue and formulating a policy to be presented to Building Better Transportation Committee as part of the taxi oversight program.

<u>Benchmarking CNG Station Operations at Other Airports</u>

There are several success stories relative to CNG station operations at other airports. However, one Airport that stands out is Sky Harbor International Airport in Phoenix, Arizona. Sky Harbor, operated by the City of Phoenix Aviation Department, has the longest running public/private partnership with a CNG fuel provider in the United States. Since 1993 the partnership between Sky Harbor and Clean Energy has led to the construction of three of the nation's highest volume CNG fueling stations: the first was built in 1994 for the airport's operations; an adjacent, public

access station, developed to fuel Super Shuttle and others, was built in 2000, , and the third, also public-access, was completed this year.

The key variable contributing to the success of the Sky Harbor operations has been the Airport's decision to mandate that all taxi, shuttle vans, shuttle buses and maintenance and operations support vehicles operate on CNG fuel. In addition, the City of Phoenix has moved toward the use of CNG police vehicles, of which 200 presently fuel at the airport stations.

Benchmarking Matrix
CNG Station Operations - Airport Stations

Airport	Number of Stations	Public Access	Primary Users	Comments
Portland International Airport (PDX)	1	NO	• Shuttle Bus Operations	• Station location does not support public access • Airlines favor electric vehicles over CNG • Incentives for CNG use not in place
Sky Harbor International Airport Phoenix AZ	3	YES	• Airport Fleet • Shuttle Buses • Taxi and Shuttle Vans • City of Phoenix Police and General Fleet	• Minimal public/private use • Mandated CNG taxi and shuttle van vehicles • Private station owner and operator • Primary outreach by web postings • High volume procurement has lead to low unit costs
Seattle Tacoma International Airport	1	YES	• Airport vehicles • Shuttle vans • Taxi vehicles	• All on-airport taxi vehicles to convert to CNG by 2006 • Station operated in partnership with "Clean Energy" • 70% of shuttle van trips to be by CNG vehicles in 2005

Success in achieving maximum CNG utilization at airports is varied, and is closely related to the restrictions the airports have adopted relative to the type of vehicles that are allowed to operate within the airport. In the general sense, the focus of most airports has been to promote or mandate the use of CNG fuel by the airport fleets and ground transportation operations. Research has not identified extensive public outreach and marketing efforts even in the most successful airports, with the norm being a focus on developing partnerships and agreements with entities that have a need for CNG fuel accessibility.

Voltaic Power at the CNG Station

Based on the station's peak power rating of approximately 250 KW, the cost of converting the station to photovoltaic power is approximately $1,175,000. Using 2004 annual costs for conventional electricity at the station as a basis for comparison, the investment recovery period for would be approximately 23 years. Based on this analysis, it is staff's recommendation that use of photovoltaic power is currently not cost effective.

Assessing the Contract with Pinnacle Relative Station Marketing

The current contract with Pinnacle does not provide for a definitive marketing program to be conducted by the Pinnacle. In fact, Pinnacle is a competitor in that they own a station in the area. At this time, the Airport is proposing to restructure CNG station oversight and assimilate station operations into the Airport Environmental Services Program. As part of this effort, the Environmental Services Manager will be tasked with the development of a comprehensive initiative to address CNG station utilization. The initiative will address four primary areas:

1. Identifying and Marketing to Off-Airport CNG Vehicle Owners
2. Conversion of Airside and Landside Vehicles
3. Development of New Public/Private Partnerships for Station Utilization
4. Auxiliary Efforts that Support the Initiative

Though these actions may be strategic in nature, there are some immediate efforts that have been and will continue to be undertaken. Towards this end, the following 'low hanging fruit' efforts have been initiated:

- ✓ Collecting CNG vehicle owner information and contacting CNG vehicle owners with station access, pricing and utilization information;
- ✓ Working with PG and E and other CNG industry sources to identify large vehicle CNG fleet operators in the area and contacting them with station information and our interest to establish station utilization partnerships;
- ✓ Contacting other public entities such as VTA, Public School Districts, Santa Clara County and adjoining Cities relative the availability of the CNG station;
- ✓ Establishing a link in the City and Airport web page that connects users to a CNG station information web page;
- ✓ Developing a station brochure for distribution at community functions and other outreach events at which the City or Airport is a participant.

Assessing Financing Opportunities for Conversion of Ground Transport Fleets

As part of the utilization initiative, staff will seek funding opportunities to facilitate the conversion to alternative fuel vehicles. The concept of financing the cost of conversions is currently being analyzed by staff. The potential fiscal liability must be assessed based on its impact to maintaining a competitive 'rates and charges' structure and the need to comply with all applicable Airport revenue restrictions.

OUTCOME

Airport staff will undertake the following actions noted in this report:

- The Airport Clean Vehicle Policy will be evaluated and a recommendation will be developed that addresses CNG station utilization, the promotion of the use of low emission vehicles relevant to current standards and the need to retain an effective taxi program at the Airport.
- The CNG station oversight will be assimilated within the Environmental Services Program and both strategic and immediate station utilization initiatives will continue to be developed and implemented.
- Financing of conversion costs will be further evaluated, taking into account all Airport financial challenges.

PUBLIC OUTREACH

Not applicable.

COORDINATION

This report has been coordinated with the City Attorney's Office and the Department of Environmental Services.

William F. Sherry, A.A.E.
Director of Aviation