

**San Francisco Board of Supervisors
Biodiesel Task Force Report**

Access to Biodiesel

The Biodiesel Task Force was formed as part of Resolution 82-06, to facilitate the creation of biodiesel fueling infrastructure that provides public access to biodiesel and biodiesel blends. Biodiesel is a new alternative fuel made from vegetable oil that can be blended with or can replace traditional petroleum diesel. Different from diesel and a relatively new alternative fuel, biodiesel has many positive characteristics such as being non-toxic and a local renewable fuel while its use significantly reduces harmful air emissions. It is these differences that offer challenges to widespread biodiesel availability and use; working through implementation issues is the goal of this Task Force.

To reach this goal, the Task Force may offer recommendations to the Board of appropriate legislative action and/or city-wide strategies that would increase biodiesel use such as the following: incentives for consumers, wholesaler and retailers of biodiesel, the streamlining of the current city processes that support biodiesel use among city fleets and among the city's consumers, and the implementation of a permitting process for biodiesel fueling stations.

In performing this work, presentations from industry professionals were conducted to get accurate and current information. These presentations are included in the Appendix.

To accomplish the permitting process, proposals were to include items such as fee waivers for the first 10 biodiesel filing stations selling neat diesel and biodiesel blends of B99. In addition, all work was performed in accordance and consistent with federal, state and existing local law and was intended to balance the public's health, safety and right-to-know with the time and cost to potential permittees.

This report was written to summarize the activities of the Task Force and to outline the ongoing work to be performed through the granted extension of the Task Force through December 2010. The Task Force regularly receives reports that outline the progress of city-wide activities related to public access of biodiesel. Through tracking this progress of biodiesel industry and developing pilot permitting scenarios, the Task Force is working to identify locations where additional legislative and city-wide strategies will be needed to increase the public's access to biodiesel.

Work Performed

The following is a summary of the activities that the Task Force received reports on.

-City Fleet & Pubic Transportation

- A. Mayor Gavin Newson's Executive Directive 06-02
 - 1. Department of Environment – Coordinating Fleet Implementation
 - a. <http://www.nytimes.com/2007/12/02/us/02diesel.html?ref=science>

- b. Under the leadership and management of the Department of the Environment's biodiesel project manager, the project was completed one month ahead of schedule.
 2. SF STAT and CCSF Fleet Inventory Reporting
 - a. SFSTAT: Biodiesel is no longer being reported in SFSAT per David Assmann, Deputy Director, Department of the Environment.
 - b. CCSF Fleet Inventory Reporting: number of engines and volume used
 3. Monthly Citywide Biodiesel Implementation Team Meetings/Conference Calls. The Department of the Environment's biodiesel project manager:
 - a. Assembled a cross-functional technical team consisting of City and County of San Francisco fleet managers, office of contract administration personnel, industry scientists, biodiesel community members and other key staff and led a successful project kick-off meeting on December 12, 2006 to begin the biodiesel conversion project. Prior to that date, the SFFD had started a pilot project and SFO had completed a pilot project and had already implemented B20 throughout the SFO diesel fleet.
 - b. Identified a primary contact at each relevant City agency to manage, track and report status on each agency's/department's conversion.
 - c. Initiated, organized, facilitated and managed monthly citywide biodiesel implementation team meetings and conference calls. The cross-functional citywide team included representatives from all enterprise departments and all required general fund departments including central shops, office of contract administration among others.
 - d. Developed reporting tools to track key issues by city agency to meet the project target completion date.
 - e. Developed pilot and implementation schedules in conjunction with lead contacts at each City agency.
 - f. Facilitated and led all monthly meetings and technical meetings
 - g. Organized relevant fleet managers and other required personnel to develop key processes including but not limited to a fuel storage tank cleaning process.
 4. Master Fuel Contract Implementation – Current Master fuel contract includes language for alternative fuels, specifically biodiesel. A discussion and potential action will include additional use of this contract to increase access.
- B. San Francisco Unified School District - Biodiesel Implementation in School Buses
Nothing to report and discussions are on-going.
- C. Exploration of Biodiesel Production Facility - Significant interest in local production exists and the extent of city involvement is being discussed and is on-going.
- D. City Vegetable Oil Collection Program – The collection and use of waste vegetable oil as a feedstock for biodiesel production helps decrease improper disposal of this material into wastewater streams and the solid waste stream. The city has developed a program through the SFPUC and SFE to collect this material and recycling it into a feedstock for biodiesel production. This collection includes both the residential and

commercial kitchens. This program relates to many and significant environmental benefits as well as increased biodiesel feedstock access for the city.

-Marine Biodiesel Access Task Force

Marine biodiesel access related issues are unique and required a subcommittee to specifically address the marine environment. This subcommittee report is included within the text of this document along with the supporting documents within an Appendix section.

-Franchise Gas Station/Small Business Incentives for Biodiesel Integration

A. Payroll Tax Exemption

The Biodiesel Access Task Force asked the Treasurer's Office to analyze a potential payroll expense tax exclusion for businesses that make biodiesel publicly available.

The payroll expense tax applies to all businesses in San Francisco. However, businesses with an annual payroll expense below \$166,666.67 per year benefit from the small business exemption, and owe no payroll expense tax. Businesses with payroll expense at or above \$166,666.67 are subject to the 1.5% payroll expense tax.

Of the roughly 75,000 registered businesses in San Francisco, fewer than 8,000 are subject to the payroll expense tax. The great majority of businesses are thus exempt from the payroll expense tax under the small business exemption.

In order to better determine the universe of potential applicants for such tax exclusion, the Treasurer's Office was asked to identify all registered businesses that are classified as a "gasoline service stations." Such designation does not necessarily mean the business would be able to offer biodiesel to the public, but it was the closest category match in the Treasurer's Office database. This identification was self-reported and not verified by Treasurer's Office staff.

An extraction from the database revealed that 98 registered businesses self-identified as a "gasoline service station" (PBC Codes 3558 and 5541) as of the 2005 tax year. Of those locations, 48 locations paid payroll expense tax while 50 were exempt. Among the 48 businesses subject to the payroll expense tax, the average tax paid was \$5,780 and the median tax paid was \$6,411. The total amount of all payroll expense tax paid by the 48 locations was \$277,448.

The Task Force decided that a gas station tax exclusion would not provide the appropriate incentive for biodiesel at this time. The primary reason for this is that fewer than half of all San Francisco gas stations would be eligible to take advantage of a payroll tax exclusion. In addition, tax exclusions are considered by some to be an imperfect vehicle to deliver financial incentives because of their inherent inequity (they do not apply to non-taxpaying entities, which in this case likely represents over half of the gasoline service stations in San Francisco), their potential to create a windfall (by paying taxpayers for what they might do anyway), and the administrative costs they can create.

B. Letter of Inquiry for Biodiesel Integration to Gas Stations Owners

See Appendix for the Letter in full.

-Fee Waivers for Permitting of Biodiesel Dispensing

Reduction of fees support initial ventures to provide biodiesel access to the public by reducing the over all startup costs. Of the permitting agencies identified for potential fee waivers several have responded and others are still reviewing the impacts.

A. SFDPH Fee Wavier for Clean and Green Businesses using Biodiesel Letter – Has been received and helps establish precedent for Fee Waviers. The current costs are shown in the current City and County of San Francisco, Hazardous Materials Unified Program Agency (HUMPA) Fee Schedule. See Appendix for the Letter in full.

B. Departments still under contact – Building Department and Fire Department

-Permitting for biodiesel dispensing

Biodiesel and vegetable based fuels move through a distribution infrastructure prior to deposition into vehicle tanks. The fuel is transferred to and from storage tanks in both the residential and commercial sectors. Biodiesel will be stored and used in a more diverse manner than traditional petroleum based fuels due to increased accessibility and differing physical characteristics of the fuels.

Regular gas stations can be permitted through an existing permitting process through the following agencies: Department of Building Inspection, Planning Department, Department of Public Health, Fire Department and regional agency via Bay Area Air Quality Management District. See Appendix for a summary the existing permitting process.

The following is a list of scenarios where biodiesel is dispensed into vehicles through a fueling infrastructure that is different from the regular gas station. This fueling infrastructure may be seen due to the reduced toxicity and volatility of these fuels compared to petroleum fuels. In addition, the availability of the fuel is far greater and can be acquired in an agriculture area or at a restaurant. Both supplier and consumer scenarios will be reviewed to identify the permitting agency.

Biofuels blended with traditional petroleum fuels take on the characteristics of both the mixed fuels. The following discussion is for product dispensing that is not governed by existing regular gas station regulations and therefore permitted as such. The product dispensed in the following scenarios must match the properties of a different liquid. Biodiesel in blends excess of B99 meet this requirement of a Class IIIB liquid.

Included in the Appendix are the files that represent this process. As each scenario requires a real life application to test the process, significant coordination occurred to create actual permit requests. These have been submitted and are in various states of completion.

A. Scenario 1 - Business dispensing biodiesel

In a commercial area, a current business such as an automobile repair shop, would like to begin dispensing biodiesel for their customers. All commercial business that have a space for holding a tank and vehicle access are potential options.

B. Scenario 2 - Buyers club dispensing biodiesel

Buyers clubs purchase fuel in bulk quantity and have it delivered to a location, residential or commercial, to be picked up by members. This fuel can be poured directly into vehicle's tanks or into plastic fueling jugs.

C. Scenario 3 - Personal use in a residential and/or commercial area

Residents of San Francisco can purchase fuel in bulk to store at home or in their vehicle. This storage capability allows for ease of fueling and reduced frequency of searching for a fueling availability.

D. Scenario 4 - Commercial use in a commercial area

Commercial fleets wishing to use biodiesel can purchase fuel in bulk and store it on site to be used as needed. This fuel will be used only by the commercial entity and the volume of storage will be maximized to reduce cost and frequency of delivery.

E. Scenario 5 - Filling of residential and commercial storage tanks

The tanks at both residential and commercial sites will need to be filled by a fueling truck. This activity will need to take place periodically as fuel is used.

F. Scenario 6 - Mobile Dispensing of fuel for special events and fleet vehicles, blended or neat

Public events such as car shows, earth day events, parades, concerts and press conferences, may include fueling of generators, trucks and specialized equipment. In addition, construction equipment on construction sites will need to be filled periodically. Other mobile fueling activities would include "wet" fueling which is one truck filling an entire truck fleet that has been parked for the night.

G. Scenario 7 - Railcar Loading and Unloading Procedures

100% Biodiesel (Methyl Esters) Handling Guidelines For Transferring Bulk Quantities From Railroad Tank Cars to Bulk Road Transport

-State Water Board Review of UST

Underground storage tanks (UST) are the basis for retail and fleet use of biodiesel. UST are regulated by the State Water Board and a representative came to a task force meeting to explain the direction that their investigation work is taking regarding the compatibility of existing UST. There is some concern as to how poor quality biodiesel may impact the wide variety of UST in use today. Some of the early findings of the Water Board are included in the Appendix. This is a large issue for biodiesel access and the Task Force will monitor the progress and offer input as necessary.

On-Going Work to Finalize

The Task Force recognizes that many of the ongoing activities take time to achieve the desired results. The tracking of this work will allow for an analysis of actions needed to increase biodiesel use. By understanding the pilot programs that have been started, all relevant agencies and experts can provide input. At this point, the recommendations that this Task Force puts forth will reflect changes that must occur to increase access.

The subsequent revisions this Report will include a summary of the ongoing work underway during the two year extension of the Task Force. A Final Report will be created and will include the final recommendations as well as criteria for evaluating the success of the Task Force Proposals.

**The SFBATF Marine Subcommittee
Draft Report
December 13th, 2007**

PURPOSE: The San Francisco Biodiesel Access Task Force Marine Subcommittee was formed in November of 2006 to focus on ways to make biodiesel fuel available in and around the waters of the city for both recreational and commercial vessels. The intent of this subcommittee is to serve as a clearinghouse for information related to biodiesel marine access, fueling, storage, and handling.

MEMBERS: The committee consists of five voting members comprised of three Biodiesel Access Task Force members and two at-large members:

Eric Bowen, Chair of both the SF Biodiesel Task Force and this Marine Subcommittee
Rich Berman, Regulatory Specialist with the Port of San Francisco
Karri Ving, Biofuel Coordinator with the SF Public Utilities Commission
Captain Joe Burgard, Port Captain, Red and White Fleet
Kate Horner, Friends of the Earth
Teri Shore, Friends of the Earth, served on the committee 12/06 through 8/07.

The involvement and cooperation of Government agencies and stakeholders within the maritime community is essential to the success of this Subcommittee. Our sincere appreciation goes out to the members of this committee as well as those who have presented to this committee for offering their time and expertise.

Goals of the Biodiesel Access task Force Marine Subcommittee:

- Facilitate the planning and installation of a biodiesel access point for marine vessels
- Provide education and outreach with regard to biodiesel marine toxicity, use, handling, storage and sustainability
- Detail marine usage of biodiesel in other cities and ports across the United States and possibly internationally

Marine fueling methods explained:

- **Dock fueling:** Primary users are recreational boaters, sport fishing vessels, commercial fishing vessels, pilot boats, service vessels and less frequent excursion, sightseeing and construction vessels. Locations are Gas House Cove, General Petroleum dock at Hyde Street and Blue&Gold Fleet's private fueling station at Pier 41.
- **Truck fueling:** Ramos Oil services ferries, sightseeing and excursion vessels.
- **Barge fueling:** Primary users are construction fleets, cruise ships and other large vessels.

History of biodiesel usage around San Francisco Bay:

- CytoCulture and partners operated a biodiesel fuel dock at the recreational fuel dock at Gas House Cove.
- Blue & Gold Fleet/WTA project on the Oski: This project looked at emissions of B100 on older engines. It also studied the reduction of NOx through the use of a water injection

system to lower combustion chamber temperatures. A draft document on the results was produced but a final paper was not published.

- Blue Water Network/CytoCulture/Red & White Fleet fueling station grant proposal: Research was conducted on the cost of installing a fueling system at the General Petroleum Pier 47 site and a grant application was submitted to the SF Department of the Environment.
- Red & White Fleet, Blue Water Network, CytoCulture and Orange Diesel hosted a biodiesel educational conference aboard Red & White Fleet's Harbor Queen, operating on B20, during World Environment Week 2006 held in San Francisco.

Current ongoing maritime private commercial use of biodiesel:

- Red & White Fleet: Operating on B20 since August 2006. Red and White Fleet working with California Air Resources Board (CARB) to complete an emissions test of biodiesel on a Tier II engine with a baseline of ultra low sulfur diesel. Red & White Fleet is also working with Cummins on a field test of its newest engine on B20.
- Alcatraz Island and Alcatraz Cruises: Paul Bishop, Director of Marine Operations, has ordered auxiliary tanks to be installed by the end of 2007. B20 is scheduled to be splash-blended into the Alcatraz Island tanks spring, 2008. Mr. Bishop stated that, in two-year steps, the objective is to go to a 40% biodiesel blend, then 80%, then 100%. The Alcatraz Cruises fleet is also being considered for B20 usage.
- Sausalito Fuel Dock: Ongoing project headed by Dr. Randall von Wedel.

Survey of Managers for concerns around using biodiesel:

Concerns relayed by Operations Managers:

1. *Increased expense* in using biodiesel.
2. *Modifications to established routines* – These concerns stem from increased fuel filter changes and use of biocides.
3. *Unfamiliarity of impact on equipment* – Operations managers feel they have enough equipment issues to deal with and are reluctant to change anything that they perceive could increase maintenance. This educational issue will lessen as the biodiesel becomes more established.
4. *Reliability*—Operators who do know something about biodiesel may have concerns over the fuel's stability qualities.
5. *Misinformation regarding emissions*—This continues to be a gray area as CARB has yet to recognize biodiesel as an alternative fuel and there is conflicting literature on the emissions benefits.
6. *Availability*—many operators have established suppliers and fueling methods.
7. *Low perceived value of using biodiesel*—Most operators won't recognize the benefits of biodiesel unless it positively affects their bottom line. Right now, there is little or no market advantage in using biodiesel.

Next steps for biodiesel maritime use in San Francisco Bay:

- Identify the emissions benefits of biodiesel
- Identify the market sector most likely to invest in the emissions benefits
- Joint agency effort by the SF Port, State Lands Commission, CARB, EPA and the City of San Francisco to establish at least one public fueling station along the waterfront.
- Educational campaign conducted for the end-user on fuel quality and stability issues; fuel system maintenance; analysis with regard to cost/benefit; availability and access; possible incentives for usage.
- Cruise ship outreach: Reinstate SF Port issuance of environmental awards to cruise ships that reduce water and air pollutions while operating in San Francisco Bay.

Appendix List

- Resolution 82-06
- Presentation List
 - Ships Polluting San Francisco Bay Skies - March 13, 2007 Marine Committee Presentation
 - Pure Biodiesel (100%) Storage and Dispensing Permitting Summary November 16, 2006 Presentation
 - Introduction to Biodiesel June 13, 2006 Presentation (powerpoint)
 - Public Biodiesel Availability Installation Process and Best Practices July 20, 2006 Presentation (pdf)
 - Biodiesel on the Bay September 21, 2006 Presentation (pdf)
- Executive Directive 06-02
- Letter to Franchise Gas Stations/Small Business Owners
- Letter to SFDPH for Fee Waiver – Dated July 31st, 2007
- Permitting Process - Current Requirements for Regular Gas Stations – August 2006
- Permitting Fueling Scenario Summary – Version 3 Dated August 2006
- DoH Permitting Scenario Responses – Dated November 7th, 2006
- Traditional Petroleum Dispensing Permitting Summary – Dated November 2006
- Mobile Fueling Permit Application – Sample Plan Sheet – Dated February 2007
- Rainbow Grocery Permit Application – Sample Plan Sheet – Dated July 2007
- Auto Service Center Permit Application – Sample Plan Sheet – Dated February 2007
- DRAFT Residential Storage Permit Information – Dated April 8th, 2008
- Biodiesel Factors Affecting Metal Corrosion

Marine Subcommittee Appendix

Presentations

- “Ships Polluting San Francisco Bay Skies,” by Member Teri Shore
- “Biodiesel on the Bay” presentation by Member Teri Shore
- “Environmental Protection Agency Biodiesel Activities as it Relates to Marine Applications,” by Olof Hansen, Region 9 EPA

Supporting Documents

- Biodiesel Boater’s Handbook by Dr, Randall von Wedel
- Letter to the Red and White Fleet for pioneering B20 use within their fleets