Biodiesel Access Task Force Marine Sub-Committee
Draft Outline

The intent of this subcommittee is to create a document as outlined below to come up with recommendations for decision makers

Current Bay Area Marine Access to Biodiesel -**Karri**

- Why the Biodiesel Task Force Marine Subcommittee was formed
  - -Provide public marine access to biodiesel
  - Education and outreach program
  - Other city's programs

About the Marine Sub-Committee -**Karri**

-Who we are and what work we performed

Potential Users of Marine Biodiesel and How They Fuel -**Joe**

-Recent maritime private commercial use of biodiesel

-Red and White Fleet

-Alcatraz Island and Alcatraz Cruises

-Dock, truck, and barge fueling explained

Dock Fueling: Establishing a Fuel Dock within the SF Waterfront-**Richard**

-Option #1: Along the SF Port piers

-Opportunities and challenges to these proposals

-Option #2: Recreational vessel pump established at Gas House Cove-**Karri**

-Opportunities and challenges to this proposal

-Randall von Wedel's 1998 summary

-Permit and regulation summary-**Richard**

Education and Outreach Efforts

-Posting a concise updated version of Dr. Randall von Wedel's Boater's Handbook on the website-**Karri**

- Posting any press releases or information regarding the Sausalito fuel dock on the website.-**Karri**

-Promote other biodiesel fuel docks in the Bay Area as well as the efforts of private companies to use biodiesel blends within a marine environment-**Karri**

-Cruise ship outreach: possible SF Port issuance of environmental awards to cruise ships that reduce water and air pollutions while operating in San Francisco Bay.-**Richard and possibly Kate**

-Which cruise lines use biodiesel. **Richard**

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

-Web links to other cities' sites

The SFBATF Marine Subcommittee

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 also 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 (non-Task Force) 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 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

Current ongoing maritime private commercial use of biodiesel:

- Red and White Fleet: Operating on B20 since August 2006. Red and White Fleet working with California ARB to complete in situ emissions test of biodiesel on a Tier II engine with a baseline of ultra low sulfur diesel. Red and White Fleet is also working with Cummins on a field test of it's newest Tier II marine engine on B20.
- Alcatraz Island and 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 Island tanks Spring, 2008. Mr. Bishop stated that in two-

year steps, the objective is to go to 40% biodiesel, then 80%, then100%. The Alcatraz Cruises fleet is also being considered for B20 usage.

- Sausalito Fuel Dock: Ongoing project headed by Dr. Randal von Wedel.

Biodiesel Overview on San Francisco Bay:

1. Past Projects
    a. Cytoculture and (others) operated a biodiesel fuel dock at the recreational fuel dock at Gas House Cove.
    b. Blue and Gold/WTA project on the Oski
        This project looked at emissions of B100 on older engines, and at 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 I'm uncertain as to whether or not a final paper was published.
    c. Blue Water Network/Cytoculture/Red and White Fleet fueling station grant proposal.
        Research was conducted on the cost of installing a fueling system at the GP Pier 47 site and a grant application submitted to the SF Department of the Environment.
    d. Red and White Fleet/Blue Water Network World Environment Week 2006 demonstration project
        Blue Water Network, Red and White Fleet, Cytoculture and Orange Fuels hosted a biodiesel educational conference aboard the Red and White Fleet's Harbor Queen, operating on B20, during World Environment Week 2006 held in San Francisco.
    e. Biodiesel fuel dock located in Sausalito
    f. *I'm sure there have been other projects and believe Randall Von Wedel would be an excellent source in identifying those.*
2. Current Projects
    a. See above.

3. Potential Users in San Francisco or serving San Francisco

I. Passenger Vessels
    a. Publicly funded ferries
        i. Golden Gate Ferries
        ii. Vallejo Baylink
        iii. Harbor Bay Maritime
        iv. Oakland/Alameda Ferry
        v. WTA
        vi. Alcatraz Cruises
        vii. Blue and Gold Fleet's Tiburon and Suasalito Ferry (not publicly funded)

viii. Angel Island Ferry (not publicly funded)

b. Charter/Excursion Vessels
    i. Red and White Fleet
    ii. Blue and Gold Fleet
    iii. Signature Cruises
    iv. Commodore Cruises
    v. Hornblower Cruises and Events
    vi. Five Stars
    vii. Compass Rose
    viii. Avalon
    ix. Hawaiian Chieftan
c. Sightseeing Vessels
    i. Red and White Fleet
    ii. Blue and Gold Fleet
    iii. Hornblower Cruises
d. Sport Fishing Vessels sailing from Fisherman's Wharf
e. Cruise Ships arriving at Pier 35 and 27

II. Non-Passenger Commercial Vessels

f. Tug and towing vessels operated out of San Francisco
    i. Bay and Delta Tug
g. Commercial Fishing Vessels operating from Fisherman's Wharf
h. Service Vessels
    ii. SF Police boat
    iii. USCG vessels
    iv. SF Fire Boat
    v. Pilot boats
i. Construction Vessels
    i. Weststar
    ii. San Francisco Drydock Vessels

III. Recreational Boaters

Note: There are numerous other operators located in the central bay –particularly in Sausalito, Larkspur, Richmond, Berkeley, Emeryville, and Oakland/Alameda who operator near the shores of San Francisco.

Layberths in San Francisco

1. San Francisco Marina (recreational boaters)
2. Gas House Cove Marina (recreational boaters and fuel dock)
3. Hyde Street marina (commercial fishermen, police boat, fuel dock)
4. Fisherman's Wharf (sport and commercial fishermen)
5. Pier 45 (Jeremiah O'Brien)
6. Pier 43 ½ (Red and White Fleet)
7. Pier 41 (Blue and Gold Fleet, Baylink, Oakland/Alameda and private fueling facility)
8. Pier 39 (Blue and Gold fleet, small excursion vessels, and recreational boaters)

9. Pier 35 (Cruise Ships)
10. Pier 33 (Alcatraz Cruises)
11. Pier 27 (occasional Cruise Ships and military)
12. Pier 15 (Bay and Delta)
13. Pier 9 (Blue and Gold, Pilot Vessels, Signature Cruises)
14. Pier 3 (Hornblower Cruises)
15. Pier 24 (SF Fire Boat)
16. Pier 30/32 (occasional military and research vessels)
17. Pier 38 (recreational boats)
18. Pier 40 (recreational boats)
19. Pier 48 (Harbor Bay Maritime)
20. Pier 50 (Weststar Marine)
21. Pier 54 (tugs)
22. Pier 70 (San Francisco Drydock)
23. Pier 80-94 (occasional ship layberths)
24. SFO (USCG Station)
25. Treasure Island (USCG station and recreational boaters marina)

Dock, truck, and barge fueling explained:

Fueling Methods

Dock Fueling in San Francisco

Gas House Cove
GP at Hyde Street
Blue and Gold Fleet's private fueling station at Pier 41

Primary users are recreational boaters, sport fishing vessels, commercial fishing vessels, pilot boats, service vessels and less frequently excursion, sightseeing, and construction vessels.

Truck Fueling

Ramos Oil
(others)

Primary users are ferries, sightseeing and excursion vessels

Barge Fueling

Primary users are construction fleets, cruise ships and other large vessels

Challenges to Developing the Marine Biodiesel Market:

- Lack of easy access to the product for those operators who use fuel docks.
- Education
    1. Conclusive emission testing results from CARB will help users identify emissions benefits.
    2. Established industry fuel standards (BQ9000) will help address stability, quality, and fuel consistency issues
    3. Cost benefit analyses for various blends could help sectors of the market to make a shift such as the recreational user.
- Resistance on behalf of some engine manufactures to endorse the use of the fuel in their engines
- Increased cost over #2 diesel
- Maintenance issues. With the biodiesel industry having made enormous strides in recent years, it is essential that users with the most experience (the US Navy, various port service fleets, and others) help with the education of new users on the operational impacts of the fuel.

Survey of Managers for concerns around using biodiesel:

Concerns relayed by Operations Managers:

1. Increased expense over using biodiesel
2. Modifications to established routines –these really amount to increased fuel filter changes and use of biocides
3. Unfamiliarity of impact on equipment –most ops manager's have enough maintenance issues to deal with the equipment they have and are reluctant to change anything that they perceive could increase maintenance. This is an educational issue and will go away as the fuel becomes more established in the market.
4. Those operators who do know something about biodiesel may have concerns over the fuel's stability qualities. Can be addressed the same as above.
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.

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 Use in the San Francisco Marine Industry:

1. Identify the emissions benefits of biodiesel
2. Identify the market sector most likely to invest in the emissions benefits

3. Joint agency effort to establish fueling station —Port of San Francisco, State Lands Commission, CARB, EPA, City of San Francisco, and a fuel marketer. This effort ought to be headed by a public agency that can benefit both economically and environmentally from such an effort and has the resources to efficiently move through the requisite regulatory process.
4. Educational campaign conducted for the end user on fuel quality/stability issues, engine and fuel system maintenance and impacts, cost/benefit analyses, availability/access, and possible incentives for usage.

Permit and regulation summary: