

Memo to the Budget and Finance Committee
March 7, 2007 Budget and Finance Committee Meeting

Item 8 – File 06-1432

Departments: San Francisco International Airport (Airport)
Department of Environment (DOE)
Department of Public Works (DPW)
Municipal Transportation Agency (MTA)
Port of San Francisco (Port)
Public Utilities Commission (PUC)
Recreation and Park Department (RPD)

Item: Ordinance amending the City's Administrative Code (a) to add Section 6.25 to require City contractors to adopt clean construction practices including the use of biodiesel fuel and emissions controls for off-road construction equipment within one year; and (b) to add Section 6.67 to allow City departments that are authorized to award public works construction contracts to compare bids on the basis of clean construction practices; and (c) amending the City's Environment Code to add Section 411 to authorize the Department of Environment to assist City departments and local businesses in applying for funding to retrofit or replace off-road construction equipment and to require annual reporting.

Description: Administrative Code Section 6.25 - Clean Construction Requirement

The proposed ordinance would amend the City's Administrative Code to add Section 6.25 to require that firms which are awarded construction contracts by the City employ clean construction practices, as defined below for all public construction projects that will take 20 or more days to complete within San Francisco. Those contracts approved one year from the effective date of the proposed ordinance would be required to employ clean construction practices for all projects that are located within 500 feet of a "sensitive site", which is defined as medical institutions with inpatient care, residential care facilities, child care facilities providing care for 13 or more children, and elementary or secondary schools. Further, all public construction contracts in San Francisco that require 20 or more days to complete that are approved two years

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after the effective date of the proposed ordinance will require clean construction practices.

As defined by the proposed ordinance, contractors required to implement clean construction practices must use only off-road equipment fueled with 20 percent or more biodiesel.¹ In addition, for all off-road equipment operated for 20 or more hours during the project, contractors must utilize only off-road equipment that meets the Tier 2 exhaust emissions standards set by the California Air Resources Board (CARB) or has been verified by the State of California as achieving the highest level of pollution control for that type of vehicle (e.g. backhoe, excavator, bulldozer)².

The subject ordinance would allow the responsible City contracting department to waive the proposed clean construction practices requirement, with approval from the Department of Environment (DOE), in the following circumstances:

- There is no immediately available contractor capable of performing the work under the clean construction requirements;
- There are no complying off-road vehicles;
- Compliance would be cost prohibitive; or
- Post-award waivers that permit contractors to perform construction that does not employ clean construction standards if such waivers do not exceed 25 percent of the total operating hours of all off-road vehicles used during the project.

¹ Off-road construction equipment are vehicles that are propelled by off-road engines of 25 horsepower or greater, excluding horticultural maintenance vehicles under 65 horsepower. Off-road vehicles are not intended to be used primarily on public roads. Biodiesel is fuel made from vegetable oil or animal fat, designated B100 or neat biodiesel and meeting the ASTM D 6751 requirements.

² Tier 2 standards are the standards for off-road construction vehicles described in Division 3, Chapter 9, Article 4, Section 2423(b)(1)(A) of Title 13 of the California Code of Regulations. Off-road construction vehicles that do not meet any emissions standards are Tier 0 vehicles. Off-road construction vehicles that meet Tier 2 standards emit emissions that are 50 to 70 percent cleaner than Tier 0 off-road construction vehicles. The California Air Resources Board is a part of the California Environmental Protection Agency. The Board's mission is to promote and protect public health, welfare and ecological resources through the effective and efficient reduction of air pollutants while recognizing and considering the effects on the economy of the State.

Contractors who do not meet the clean construction requirements would be subject to fines of \$100 per day, per non-compliant off-road construction vehicle. Contractors who falsely report the type of off-road vehicles utilized on the construction project would be subject to administrative penalties at the discretion of the responsible contracting department. According to Ms. Vandana Bali of the DOE, because the number of projects that would be impacted by the proposed ordinance and the number and emissions levels of existing off-road construction vehicles are unknown, the rate of noncompliance is unknown and DOE cannot currently project penalty revenue.

Administrative Code Section 6.67 – Comparison of Bids on the Basis of Clean Construction

The proposed ordinance would amend the City's Administrative Code by adding Section 6.67, which would encourage departments to consider contractors' use of clean construction practices when evaluating competitive bids for construction contracts. Pursuant to the proposed ordinance, departments would determine the cost of clean construction practices and subtract this cost from the bids of contractors who employ these practices, making the bids of contractors who employ clean construction practices more competitive.³

Environment Code Section 411 – Responsibilities of the Department of the Environment

The proposed ordinance would amend the City's Environment Code to add Section 411 which would require DOE to (1) provide departments which award construction contracts with information on State and Federal funding to retrofit or replace City-owned off-road vehicles, (2) provide technical assistance to local construction businesses in securing funding to retrofit or replace off-road construction vehicles that are operated in the City, and (3) report annually to the Mayor and the Board of Supervisors regarding:

³ For construction contracts, contracting departments are required to accept the lowest bid.

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- the extent to which each City department's off-road construction vehicles meet the Tier 2 standard;
- the results of State and Federal grant applications made and awarded to retrofit or replace City-owned off-road vehicles;
- technical assistance provided to local businesses; and
- recommendations to the Mayor, the Board of Supervisors, and departments for procedural, policy, or legislative changes to reduce air pollution emanating from off-road construction vehicles.

Effective Date:

One year from the effective date of the passage of the proposed ordinance, construction projects taking 20 or more days to complete and located within 500 feet of a sensitive site⁴ within San Francisco would be required to employ clean construction practices.

After two years from the effective date of the proposed ordinance, all public construction projects taking 20 or more days to complete within San Francisco must employ clean construction practices.

All other requirements of the proposed ordinance would be effective upon passage of the legislation.

Fiscal Impact:

The proposed ordinance would likely impact the construction contract bid process. However, because the number and dollar value of contracts that would be affected is unknown, the fiscal impact of the proposed ordinance cannot be specifically identified. However, the potential cost implications of the proposed ordinance are described below.

Increased Cost Due to Consideration of Clean Construction in Awarding Construction Contracts

As previously described, the proposed ordinance would allow City departments to subtract the cost of clean construction practices from the bids of contractors who employ these practices. Therefore, if a construction contract is awarded to a contractor who employs clean

⁴ Sensitive sites include medical institutions with inpatient care, residential care facilities, child care facilities providing care for 13 or more children, and elementary or secondary schools.

construction practices, because the cost of clean construction is subtracted from the bid, the City's net increased cost would be the difference between the amount the City pays the clean construction contractor and the next lowest bidder, which otherwise would have received the contract.

Increased Cost Due to Fewer Bidders

Mr. Sean McFadden, an Administrative Analyst in the Recreation and Park Department's (RPD) Purchasing and Contract Group and Mr. Gordon Choy, Division Manager of Contract Administration, Department of Public Works (DPW), advise that adding a bid requirement that mandates construction contractors employ clean construction practices is likely to reduce the number of bids received per contract, especially from small contractors.

As shown in Table 1 below, six surveyed City departments report that most of the construction contractors that submit bids to the City are small to medium size companies⁵. Further, City departments report that on average, two to three bids are received for each construction contract.

Table 1: Number and Size of Construction Companies Submitting Bids to the City

Department	Avg. No. Bidders	Avg. Bidder Size
Airport	2-3	Small
Department of Public Works	3	Small
Municipal Transportation Agency	3	Medium
Port	2	Small and Medium
Public Utilities Commission	3	Small and Medium
Recreation and Park Department	2	Small

⁵ Small construction companies are companies whose average gross annual receipts in the prior three years have not exceeded \$14,000,000 for public works construction. Medium construction companies are companies whose average gross annual receipts in any of the prior three years have exceeded \$14,000,000 but are less than \$1,000,000,000. Large construction companies are defined as companies whose average gross annual receipts in any of the prior three years have exceeded \$1,000,000,000.

In December of 2004, Leland Saylor Associates, a professional construction cost estimating company, presented a report to the Library Commission which addressed the significant variance between the West Portal Library Renovation construction cost bids and the Library's initial cost estimates. The report, which was provided to the Budget Analyst by Ms. Marilyn Thompson of the Public Library, estimates that when fewer than four contractors bid on a construction contract, the cost of the contract is at least ten percent more than the Department's initial cost estimates, as shown in Table 2 below.

Table 2: Relationship of Number of Bids to Contract Amount

Number of Bids	Percent Increase/Decrease in Department's Estimated Cost
1 Bid	25 to 50 percent increase
2-3 Bids	10 to 25 percent increase
4-5 Bids	0 to 10 percent increase
5-6 Bids	1 to 10 percent decrease

Source: Leland Saylor Associates

As shown in Table 1, on average, City departments currently receive only two to three bids per construction contract. Thus, in many instances, the City's average construction contract costs may already be greater than initial Department's cost estimates, irrespective of the proposed legislation. Based on the analysis by Leland Saylor Associates, if the proposed clean construction requirement results in fewer construction bids submitted to City departments, City departments would likely receive one to two bids per construction contract. Consequently, the actual cost of the average City contract would likely increase.

As previously stated, one year from the effective date of the proposed legislation, all public construction projects in San Francisco taking 20 or more days to complete and located within 500 feet of a sensitive site, including medical institutions with inpatient care,

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residential care facilities, child care facilities providing care for 13 or more children, and elementary or secondary schools, would be required to employ clean construction practices. As City departments do not have projections of the number and costs for construction projects located within 500 feet of a sensitive site that will begin one year from the effective date of this ordinance, the fiscal impact of requiring clean construction practices one year from the effective date of the proposed legislation cannot be separately estimated.

Two years from the effective date of the proposed ordinance, all construction projects would be required to employ clean construction practices. Based on data provided by the Airport, the Port, the Municipal Transportation Agency (MTA), the Public Utilities Commission (PUC), DPW, and RPD, and compiled by the Budget Analyst, the total value of City construction contracts in FY 2005-2006 was \$376,134,903. Table 3 below shows a detailed breakdown of the total value of City construction contracts in FY 2005-2006 for these six major City departments.

Table 3
FY 2005-2006 City Construction Contracts

Departments	FY 2005-2006 Total Construction Contracts
DPW	\$210,000,000
Airport	60,653,794
Port	8,583,382
MTA	39,902,873
RPD	2,000,000
PUC	54,994,854
Total	\$376,134,903

If the proposed ordinance results in fewer construction contract bidders or increased costs for the contractor, and assuming that the level of construction is approximately the same each year, the Budget Analyst notes that each one percent increase in construction

expenses would increase the City's costs by approximately \$3,761,349. However, the Budget Analyst cannot currently estimate the specific cost increases that may result from the proposed ordinance. Further, the Budget Analyst notes that a variety of factors can impact the costs of construction, such as general economic conditions, the total amount of construction in progress in the region (thus affecting the level of competition for construction contracts) and the cost of construction materials such as steel and cement.

Increased Construction Costs Passed on to City

According to Mr. Ivar Satero of the Airport, if the proposed clean construction requirements increase the construction companies' cost to perform work in the City, these cost increases would be passed onto the City in the form of higher contract bids.

As previously described in this report, construction contractors whose work extends 20 days or longer would be required to employ clean construction practices by utilizing off-road construction vehicles that utilize biodiesel fuel and meet Tier 2 standards or have been verified by the State of California as achieving the highest level of pollution control for that vehicle type.

Costs Associated with the Use of Biodiesel Fuel

Using biodiesel fuel instead of regular diesel fuel could increase construction contractors' cost to perform work in the City. Although the price differential between regular diesel fuel and biodiesel fuel varies with market conditions, Mr. Jim Johnson from the Department of Administrative Services, Central Shops, advises that in November of 2006, biodiesel fuel was approximately \$0.22 more per gallon than regular, ultra-low diesel fuel. Mr. Sam Mehta of the Airport further advises that because the supply of biodiesel fuel is currently limited, if the demand for biodiesel fuel increases in response to the proposed ordinance, the supply may be insufficient to meet the demand in

the short-term, which could cause the cost of biodiesel fuel to further increase.

The Budget Analyst notes that some of the other long-term impacts of the proposed ordinance on construction costs are unknown, including (1) the cost to maintain engines that use biodiesel fuel, (2) any limitations on types of equipment that can efficiently use biodiesel fuel, and (3) the quantity of biodiesel fuel required to produce the same amount of energy as regular fuel (e.g. the fuel efficiency of biodiesel fuel vs. regular diesel fuel).

Costs Associated with Buying, Renting or Retrofitting Vehicles

Construction contractors could obtain vehicles that meet the Tier 2 standard or have been verified by the State of California as achieving the highest level of pollution control for that vehicle type by (1) buying new or used vehicles that already meet the Tier 2 standard, (2) retrofitting older vehicles to meet the Tier 2 standard or with the highest level of verified control devices for particulate matter or (3) renting vehicles that meet the Tier 2 standard. Ms. Bali advises that contractors can apply for California Air Resources Board Carl Moyer Program funds in the future to buy new vehicles or to retro-fit old vehicles to meet the Tier 2 standard. Ms. Bali advises that \$10,300,000 in such Carl Moyer Program grant funds are available Statewide in 2007 and that additional funding is anticipated to be available in 2008.

However, if contractors do not receive such grant funding to buy new vehicles, retro-fit old vehicles, or rent vehicles, these costs could be passed onto the City. According to Mr. Johnson, off-road construction vehicles can cost \$18,000 to \$300,000 per vehicle, depending on the vehicle type. Mr. Mehta of the Airport advises that retro-fitting vehicles to meet the Tier 2 standard is generally estimated to cost approximately \$10,000 to \$15,000 per vehicle.

Administrative Costs

As previously noted, the proposed ordinance would require DOE to provide information and technical assistance to City departments and local businesses, to report to the Board of Supervisors on the status of clean construction annually, and approve or disapprove any waivers from the requirements of the proposed ordinance. According to Ms. Bali, because the City does not know how many construction projects each Department manages on an annual basis, or the number of projects that would require clean construction, the number of waivers that would be requested are unknown. Accordingly, DOE has neither projected the administrative costs of the proposed ordinance nor identified a funding source to cover these annual administrative costs.

Further, the administrative costs that would be incurred by the contracting City departments as a result of the proposed ordinance are unknown. The proposed ordinance does not describe how Departments would enforce the provisions of the proposed clean construction regulations. According to Mr. McFadden of RPD, if departments are required to verify contractor compliance with the proposed clean construction requirements, the cost would be much higher than if contractors self-report compliance. Further, Mr. Choy of DPW advises that because each general contractor can employ up to 30 subcontractors, if departments are required to verify subcontractors' compliance with the proposed ordinance, administrative costs would be higher than if departments are only required to verify the general contractors' compliance.

Comments:

1. According to Ms. Bali, existing State and Federal standards require that all off-road construction vehicles manufactured after 1996 meet the Tier 2 standard. Mr. Johnson advises that off-road construction vehicles have a useful life of 15 or more years. Accordingly, the proposed ordinance would only have a significant impact on all off-road construction vehicles manufactured on or before 1996. The Budget

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Analyst therefore notes that, each year, a portion of these off-road construction vehicles will reach the end of their useful life and be replaced with off-road vehicles that meet the Tier 2 standards required by the proposed ordinance.

2. Ms. Bali advises that the California Air Resources Board (CARB) is currently developing a State-wide regulation that would require existing construction equipment manufactured before 1996, that does not meet the Tier 2 standard, be retro-fitted or replaced with new equipment by 2020. Ms. Bali expects this regulation to be approved by the CARB in 2007.

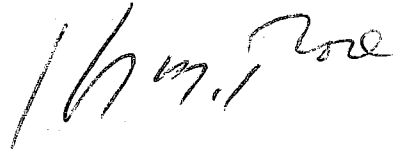
According to Ms. Bali, the proposed ordinance differs from the CARB regulation because the CARB regulation would be phased in gradually from 2009 through 2020. In contrast, the proposed ordinance would require construction contractors to use off-road equipment that meets the Tier 2 standard within two years of the passage of the ordinance, or by 2009.

3. The Budget Analyst notes that, as previously described, the implementation costs and fiscal impacts on the City of the proposed ordinance are unknown.

4. In accordance with the proposed ordinance, the Planning Department has determined that the actions contemplated in this ordinance are in compliance with the California Environmental Quality Act (CEQA).

Recommendation: Given that the (a) proposed ordinance would reduce pollution due to off-road construction vehicles, (b) off-road construction vehicles manufactured after 1996 already meet clean construction requirements of the proposed ordinance, (c) California Air Resources Board is contemplating a similar regulation, (c) implementation costs are unknown, and (d) fiscal impacts on the City are unknown, approval of the proposed ordinance is a policy matter for the Board of Supervisors.

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Harvey M. Rose

cc: Supervisor Daly
Supervisor Ammiano
Supervisor Dufty
Supervisor Mirkarimi
Supervisor Sandoval
President Peskin
Supervisor Alioto-Pier
Supervisor Elsbernd
Supervisor Jew
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