



METROPOLITAN
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COMMISSION

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Memorandum

TO: Transit Finance Working Group

DATE: November 4, 2009

FR: Glen Tepke

RE: Bus Emission Filter Upgrades

Background

This item is a follow-up to the discussion at the October TFWG meeting of the need for replacing Cleaire Longview bus emission reduction devices that were funded under a regional program in FY04 and FY05, and potential funding for replacements. The devices are now reaching or approaching the end of their five-year warranty period. New replacement filters also provide greater NOx reduction benefits than the original devices.

MTC staff had estimated that about 1,300 of the 1,600 devices procured under the program were still in service. Replacing all 1,300 would cost approximately \$19 million. MTC staff requested the following information from the affected operators:

- The quantity of buses with installed Cleaire Longview devices still in service, by model (standard transit bus vs. over-the-road coach) and model year; and
- How each operator intends to address the replacement of the devices.

Operator Responses to Survey of Filter Replacement Needs

MTC received a variety of responses regarding the quantity of buses with devices installed, and the need to replace the devices:

- ECCTA, SFMTA and VTA staff questioned the need for wholesale replacement of the devices, suggesting that the useful life of the devices was substantially longer than the five-year warranty period, and that it would be more cost-effective to replace devices that fail on an as-needed basis than to proactively replace all devices.
- AC Transit staff indicated that in addition to replacing currently installed devices, the agency needs to procure 71 additional devices under the CARB regulation that requires one older bus to be retrofitted for each new bus purchased that does not meet CARB's 2009 engine emission standards. In addition, AC Transit may need to procure another 51 filters if a

device is certified for their remaining buses (the 51 contingency filters are not included in the summary table below).

- Golden Gate Transit staff indicated that in addition to their currently installed Cleaire devices, the agency needs to replace 80 other PM devices, but planned to replace only the “brick” rather than the entire device, at a reduced cost of approximately \$8,000 per brick.
- SFMTA staff indicated that they did not need to replace filters, other than replacing failed devices as needed, but did want to establish an inventory of spare filters that would be installed when filters were removed for maintenance. Establishing a 10% spare ratio would require approximately 40 filters (preliminary estimate).
- ECCTA and LAVTA staff indicated they had sufficient funding in place to cover their device replacement needs.
- Several operators indicated that they did not need to replace devices because the buses are scheduled to be retired within the next few years.
- Other operators verified or corrected the inventory of installed devices, and indicated they would need additional funding to replace the devices.

CARB Requirements for Replacing Emission Reduction Devices

In response to the questions from ECCTA, SFMTA, and VTA staff regarding the need to replace the devices, MTC contacted CARB staff to get clarification on CARB’s useful life and replacement requirements for retrofit devices. CARB staff (Kathleen Mead, Manager, Retrofit Implementation Section) reported that:

- CARB’s verification of a device is good for the life of the device, i.e., there is no time limit on the verification.
- CARB does not have a maximum useful life requirement after which the device must be replaced.
- As long as operators maintain the device in like-new condition, the device is verified until a component fails that cannot be replaced by the manufacturer.
- If a major component fails that cannot be replaced by the manufacturer, the entire device must be replaced.
- When performing maintenance/replacing parts, operators must go through the manufacturer and not mix parts from other manufacturers.
- Retrofit devices must remain in service until the engine is replaced with an engine that meets the 2010 engine emission standards.

- If operators obtain devices that are verified for greater-than-required NO_x reduction before 2013, they may be eligible for credits (extensions) for compliance with the CARB fleet rule.

Operators with specific questions about CARB policy are encouraged to contact CARB staff directly for further clarification.

Replacement Program Proposal

Under the current TCP policy, replacement of emission devices would be considered preventive maintenance and treated as Score 9 if an operator were to request funding for a replacement project from the TCP program. In light of the need to replace filters by some of the region's operators at a time when preventive maintenance budgets are under severe stress due to state budget cuts and the recession, MTC proposes to amend the policy to create an emission reduction device replacement program. The elements of this proposal attempt to strike a balance between facilitating operators' ability to remain in compliance with CARB requirements and to exceed those requirements by achieving greater NO_x reductions on the one hand, and making the most effective use of the region's limited capital funds on the other.

- Requests to replace emission filters or filter components in order to maintain compliance with or exceed CARB requirements would be treated as Score 16.
- In order to be treated as Score 16, replacement filters must be installed on buses that are scheduled to remain in service until at least 2014.
- Requests to procure spare filters up to 10% of the current inventory would be treated as Score 16.
- Funding under the emission reduction device replacement program would require a 50% local match, rather than the standard 20%. The intent of this element is to encourage operators to replace filters only when necessary and to align with the original policy that had regional contribution to NO_x reduction and local contribution for PM reduction.
- Participation in the program would be entirely voluntary.

Based on the responses to the survey of filter needs summarized in the table, approximately 585 replacement or spare filters could be funded under the program, with a total cost of approximately \$8.4 million. Based on the proposed 50% match requirement, the program would require approximately \$4.2 million in regional funds. The purpose of

Estimated Emission Device Replacement/Spares Costs

Operator	No. of Buses	Est. Device Repl. Cost
AC Transit	267	\$3,826,110
CCCTA	71	\$1,017,430
Fairfield Transit	19	\$272,270
Golden Gate Transit	61	\$869,280
LAVTA	-	\$0
SFMTA	40	\$573,200
SamTrans	55	\$788,150
Santa Clara VTA	-	\$0
Santa Rosa City Bus	6	\$85,980
Tri-Delta	-	\$0
Vallejo Transit	52	\$745,160
WestCat	14	\$200,620
Total	585	\$8,378,200

the table is to estimate the total funding needed for the program, not to define eligibility or assign funding amounts to particular operators. Any operator with filter procurement needs could request funding, including those that indicated that they presently have no plans to replace filters.

Funding for the proposed emission reduction device replacement program would come from the difference between the amount of FY10 5307 apportionments assumed in the TCP program and the actual apportionments, which should be known later this year. The FY10 DOT appropriations bill currently pending in Congress has a 4.5% increase over FY09 appropriations for 5307 vs. 2.0% assumed in the TCP program. If the increase in appropriations translates into an equal increase in apportionments, the region would receive \$5.5 million in additional funding. MTC would solicit requests for filter procurement projects in conjunction with the FY10 POP amendment. If FY10 5307 funds are insufficient to fund the requested projects, MTC would work with operators to defer funding until FY11.

MTC requests input and the concurrence of the TFWG with the proposed emission reduction device replacement program.

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