Marty Lassen
06-2-2

Statement
Of
Johnson Matthey
On The
California Air Resources Board
Hearing Agenda Item 06-2-2
Public Meeting to Consider the 2005-2006 Lower-Emission School Bus Guidelines and Funding Allocation

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Good morning Mr. Chairman and Members of the Board. My name is Marty Lassen and I am the Commercial Development Manager for Johnson Matthey's heavy-duty diesel business in North America. Johnson Matthey appreciates the opportunity to provide comments on the 2005-2006 Lower-Emission School Bus Guidelines and Funding Allocation.

Johnson Matthey is a technology company that has been providing advanced catalytic solutions to reduce emissions for over thirty years. We have worked with both the ARB and EPA to develop and provide these ever increasingly advanced technology solutions to reduce emissions from both mobile and stationary sources. Johnson Matthey fully supports the goal of the ARB's Diesel Risk Reduction Program to significantly reduce particulate matter from California's inventory of existing diesel engines.

Johnson Matthey has been involved with the Diesel Risk Reduction Program since its inception. We have provided technology, our expertise in applying this technology along with a willingness to demonstrate the effectiveness of our technology as a partner with the ARB. JM has committed considerable resources to this program over the last six years.

We fully concur that replacement of older school buses and retrofit of newer diesel school buses is a critical element in providing a clean and safe environment for the children of California as they are transported to school. However, certain aspects of Senate Bill 77 and the State of California, California Environmental Protection Agency, AIR RESOURCES BOARD, Proposed Revisions 2006 of the LOWER-EMISSION SCHOOL BUS PROGRAM GUIDELINES are troubling.

The budget language appropriating retrofit funding for the 2005-2006 FY requires it be used to fund retrofit devices that reduce PM by at least 85 percent. This equates to a Level 3 device. Johnson Matthey has no disagreement with 4 of the 5 budget stipulations, those being: (a) at least a Level 3 verification from the Board; (b) applicability to the broadest range of year, make, and model of school bus diesel engine; (c) ability to operate on CARB diesel fuel or ultra-low sulfur diesel fuel; and (d) ability to operate across the broadest range of school bus

operating conditions and duty cycles. However the fifth stipulation; the lowest possible NO_2 across the device, does cause Johnson Matthey concern for several reasons.

At the time Senate Bill 77 passed, the only devices verified were passive devices that all had approximately the same level of increased NO_2 or NO_2 slip. The expectation was that the various passive filters would compete for the business. Within several weeks of the passage of the Bill, an uncatalyzed, active filter system for on-road applications with zero NO_2 slip was verified. Coincidence? Maybe. Maybe not.

Johnson Matthey believes that low NO_2 slip is a worthy goal. We have been diligently working to meet the existing 20% increase requirement for January 1, 2007 that is in the current verification procedural language. In fact the ARB staff will be proposing to you in March a modification that changes this NO_2 slip value from 20% to 30% for 1/1/07 with a step reduction to 20% on 1/1/09. This is partly driven by the longer time it has taken for technology to be developed and validated, but also by ARB's desire to maintain a competitive atmosphere for retrofit products in California. This keeps prices down. The dictate for lowest NO_2 in Bill 77 is contradictory to ARB staffs direction on NO_2.

ARB's own analysis shows that a 20% NO_2 increase has essentially no measurable impact on ozone or nitric acid formation and that even moderately higher levels could be tolerated with no or minimal effect. We agree that there is an impact on health with higher levels of NO_2, but PM has a much worse impact on health than NO_2. An uncatalyzed filter will not reduce any of the HC or CO in the exhaust gas, in fact there may well be an increase. The formation of ozone is the result of the interaction between NOx and HCs in the presence of sunlight. Has ARB looked at the impact on ozone formation if there are no HC reductions (or if there is an increase) with these active system diesel retrofits?

The language in the Revision to the Guidelines for 2006, states that, "air districts shall give priority to applications from school districts requesting funds to install uncatalyzed active particulate filters on eligible school buses, even if they are more expensive than a catalyzed passive particulate filter". This gives a virtual monopoly for the $12.5 million for retrofit funding to one company and their technology regardless of cost. We believe that this was not the intent of the Legislature and we don't believe that this provides for the maximum number of retrofits to be completed thereby creating a scenario that is not beneficial to the stated goal of reducing the maximum amount of diesel emissions nor one that makes cost-effective use of the funding.

JM has always indicated that no one filter technology is a panacea for all engines and applications. JM would like to ensure that the Board understands what will be required of school districts if they are made to install an active, plug in filter system.

1. Since there is a only single vendor that can supply a verified technology, JM is skeptical that the cost of the active system will be equivalent, or even close to the cost of the existing passive filters.
2. The active system requires an off-board air pump and regeneration control panel which will also require additional infrastructure in the form of 240V electric supply. There would be an ongoing cost for electricity to the regeneration stand for the 5 to 8 hour cleaning cycle that may or may not be required daily.
3. There is a likelihood that the regeneration will be required daily which means that every active system would need a regeneration stand. This also means that the school district must take an active part, every day, in plugging these systems in.
4. Johnson Matthey's analysis of the marketplace for a plug-in active filter system, yes we market a commercial system in Europe for the non-road sector, is that users do not like the "plug-in" concept and based on our combustible.

The above points are serious concerns and indicate that the total cost of active systems will be considerably higher than passive systems. Also there may be dire consequences for the success of these retrofits if users don't want them, don't like them and do not make the required effort.

In closing, while JM is committed to cleaning up emissions from diesel engines in many applications with school buses at the top of the list, we cannot in good conscience support the restrictive language in the Proposed Revisions 2006 Low Emissions School Bus Program which specifically identifies one company's technology. We would ask the Board to delay any decision on these revisions until such time that JM and other interested parties have had the chance to appeal to the Legislature to reconsider its language.

Thank you.