TABLE A.—CERTIFICATION LEVELS—Continued

Engine Models	Model Year	PM Level [1] with CEM	Code	Family
8V92TA DDEC	1989	0.31	1A	KDD0736FZH 4
8V92TA	1990	0.35	9E70	LDD0736FAH 9
8V92TA DDEC	1990	0.37	1A	LDD0736FZH 3
8V92TA DDEC	1991	0.19	1A or 5A	MDD0736FZH 2
8V92TA DDEC	1992–93	0.16	1D	NDD0736FZH 1 & PDD0736FZH X
8V92TA DDEC	1992–93	0.22	6A	NDD0736FZH 1 & PDD0736FZH X
8V92TA DDEC	1992–93	0.15	5A	NDD0736FZH 1 & PDD0736FZH X
8V92TA DDEC	1992–93	0.19	1A	NDD0736FZH 1 & PDD0736FZH X

[1] The original PM certification levels for the 1991 6V92TA DDEC II, 6LV71TA DDEC and 8V92TA DDEC engine models are based on Federal Emission Limits (FELs) under the averaging, banking and trading program. These limits are higher than the 1991 PM standard of 0.25 g/bhp-hr. The PM level listed in this table for the engines that are equipped with the CEM provide at least a 25% reduction from the original certification levels. The 1992 to 1993 6V92TA DDEC II and 8V92TA DDEC engine models were also certified using FELs under the trading and banking program and likewise the PM levels for the engines equipped with the CEM represent at least a 25% reduction from the original certification levels.

Transit pricing level data has been submitted with the notification, along with a guarantee that the equipment will be offered to all affected operators for less than the incremental life cycle cost ceiling of $2,000 in 1992 dollars. JMI indicates that the maximum cost in 1995 dollars will not exceed $2,173.00. Equipment cost is listed to be $1,926.00 and installation costs are not to exceed $247.00 (6.5 hours of labor time maximum). JMI states that there is no fuel economy impact, and that no incremental maintenance will be necessary due to this equipment. Therefore, this equipment may qualify as a trigger for program requirements for the 25% reduction standard. However, it is noted that designation as a trigger is not necessary in this case as trigger technology is already certified for the 25% reduction standard for every engine model for which this technology would be certified. However, in the future this technology may lower the target PM level for bus operators under Program 2 for particular engine models, if the PM level for this technology is lower than the PM certification level for any other certified technology.

JMI presents data from testing the equipment on a 2-stroke 1986 model year DDC 6V92TA engine documenting PM emissions reduction under two different scenarios. In applications involving aftertreatment devices, the use of a ''worst case'' engine during testing allows the certifier to extrapolate the results to engines known to have engine out PM levels that are equal to or less than the test engine. Based on a pre-rebuild PM level for the 6V92TA of 0.50, from the table in 40 CFR section 85.1403(c)(1)(iii)(A), the 6V92TA qualifies as a ''worst case'' for all two-stroke/cycle engines with the exception of the 1990 DDC 6L71TA.

In the first test sequence, the baseline test was performed on the engine prior to rebuild. Then the catalytic converter was added to the exhaust system and another test was performed. The results are presented in Table B. When the results of the two tests are compared, the test on the engine that was equipped with the catalytic converter shows a 50% decrease in PM emissions compared to the baseline engine. This test also shows that hydrocarbon (HC), carbon monoxide (CO), and oxides of nitrogen (NO_X) emissions are within the applicable emission standards.

TABLE B.—CERTIFICATION EMISSION TEST RESULTS

[Pre-Rebuild Composite Test Results (g/bhp-hr)]

	Baseline engine	Engine with CEM	Percent reduction
PM	0.44	0.22	50
HC	0.7	0.4	43
CO	1.0	0.6	40
NOx	10.5	10.2	3
Smoke:			
Accel (percent)	2	1	
Lug (percent)	1	1	
Peak (percent)	4	3	

In the second test sequence, the baseline test was performed on the engine after rebuild. Then, as in the first test sequence, the catalytic converter was added and a comparison test was performed. The results are presented in Table C. When the results of these tests are compared, the test on the engine with the catalytic converter installed shows a 38% reduction in PM emissions when compared with the test results for the baseline engine. The HC, CO, and NO_X emissions for this test are within the applicable emission standards.

JMI also provided smoke emission measurements for the engine in the