

Pkwy, Grand Rapids, MI 495,88, (616) 940-4406.

i. *FERC Contact*: Tom Dean, Thomas.dean@ferc.fed.us, (202) 219-2778.

j. *Deadline for filing comments, recommendations, terms and conditions, and prescriptions*: 60 days from the issuance date of this notice.

All documents (original and eight copies) should be filed with: David P. Boergers, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person whose name appears on the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource, agency they must also serve a copy of the document on the resource agency.

k. *Status of environmental analysis*: This application is ready for environmental analysis at this time.

l. *Description of the Project*: The project consists of the following existing facilities: (1) A 13-foot-high, 325-foot-long dam with a concrete spillway; (2) a reservoir with a surface area of 90 acres, and a storage area of 140 acre-feet; (3) a powerhouse with a forebay containing two generating units with a total installed capacity of 375 kW; and (4) other appurtenances.

m. *Locations of the application*: A copy of the application is available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street NE, Room 2A, Washington, DC 20426, or by calling (202) 208-1371. The application may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call (202) 208-2222 for assistance). A copy is also available for inspection and reproduction at the address in item h above.

Filing and Service of Responsive Documents—The application is ready for environmental analysis at this time, and the Commission is requesting comments, reply comments, recommendations, terms and conditions, and prescriptions.

The Commission directs, pursuant to Section 4.34(b) of the Regulations (see Order No. 533 issued May 8, 1991, 56 FR 23108, May 20, 1991) that all comments, recommendations, terms and conditions and prescriptions concerning the application be filed with the Commission within 60 days from the issuance date of this notice. All reply comments must be filed with the

Commission within 105 days from the date of this notice.

Anyone may obtain an extension of time for these deadlines from the Commission only upon showing of good cause or extraordinary circumstances in accordance with 18 CFR 385.2008.

All filings must: (1) Bear in all capital letters the title "COMMENTS", "REPLY COMMENTS", "RECOMMENDATIONS," "TERMS AND CONDITIONS," OR "PRESCRIPTIONS"; (2) set forth in the heading the name of the applicant and the project number of the application to which the filing responds; (3) furnish the name, address, and telephone number of the person submitting the filing; and (4) otherwise comply with the requirements of 18 CFR 385.2001 through 385.2005. All comments, recommendations, terms and conditions or prescriptions must set forth their evidentiary basis and otherwise comply with the requirements of 18 CFR 4.34(b). Agencies may obtain copies of the application directly from the applicant. Any of these documents must be filed by providing the original and the number of copies required by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426. An additional copy must be sent to Director, Division of Project Review, Office of Hydropower Licensing, Federal Regulatory Commission, at the above address. Each filing must be accompanied by proof of service on all persons listed on the service list prepared by the Commission in this proceeding, in accordance with 18 CFR 4.34(b), and 385.20110.

David P. Boergers,  
Secretary.

[FR Doc. 00-2191 Filed 2-1-00; 8:45 am]

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## ENVIRONMENTAL PROTECTION AGENCY

[FRL-6531-4]

### Retrofit/Rebuild Requirements for 1993 and Earlier Model Year Urban Buses; Approval of an Application for Certification of Equipment

**AGENCY:** Environmental protection agency (EPA).

**ACTION:** Notice of agency approval of an application for equipment certification.

**SUMMARY:** The Agency received a request to amend a notification of intent to certify urban bus retrofit/rebuild equipment for 4-stroke petroleum fueled diesel engines pursuant to 40 CFR part 85, subpart O from Engelhard

Corporation (Engelhard). Engelhard requested to amend the original notification to include additional engine models. Pursuant to section 85.1407(a)(7), a November 30, 1998 **Federal Register** document summarized the amendment and announced that the amendment request and accompanying data would be available for public review and comment, and initiated a 45-day period during which comments could be submitted. In the document, the Agency stated it would review this request to amend the notification of intent to certify, as well as comments received, to determine whether the equipment should be certified for the additional models.

EPA has completed its review of this amendment request and the Director of the Certification and Compliance Division (CCD) has determined that the requirements for certification have been met. Accordingly, today's **Federal Register** document describes the certification of this equipment for the engine models listed in Table C of this document.

Testing documentation presented to the Agency demonstrates a reduction in particulate matter (PM) of at least 25% for the engines listed in Table C. Life cycle cost information was not submitted by Engelhard and this approval does not trigger requirements for the additional models. Certification of this equipment makes it available for operators complying with the 25% particulate matter reduction requirements of compliance program 1 and may also be used by operators utilizing program 2 to achieve target fleet emission levels.

**DATES:** Today's **Federal Register** document announces the Agency's decision to certify the CMX equipment for certain 4 stroke/cycle urban bus engines. The effective date of certification was established in a letter dated November 30, 1999 from the Director of the Certification & Compliance Division to Engelhard Corporation. A copy of this letter is in the public docket located at the address noted above. This equipment may be used immediately by urban bus operators.

**ADDRESSES:** The application, as well as other materials specifically relevant to it, are contained in Public Docket A-93-42 (Category XVII-A), entitled "Certification of Urban Bus Retrofit/Rebuild Equipment". This docket is located in room M-1500, Waterside Mall (Ground Floor), U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460.

Docket items may be inspected from 8:00 a.m. until 5:30 p.m., Monday through Friday. As provided in 40 CFR part 2, a reasonable fee may be charged by the Agency for copying docket materials.

**FOR FURTHER INFORMATION CONTACT:**

Anthony Erb, Engine Compliance Programs Group, Certification & Compliance Division (6403J), U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, N.W. Washington, D.C. 20460. Telephone: (202) 564-9259. Email Address: [ERB.ANTHONY@EPA.GOV](mailto:ERB.ANTHONY@EPA.GOV).

**SUPPLEMENTARY INFORMATION:**

**I. Program Background**

On April 21, 1993, the Agency published final Retrofit/Rebuild Requirements for 1993 and Earlier model Year Urban Buses (58 FR 21359). The retrofit/rebuild program is intended to reduce the ambient levels of particulate matter (PM) in urban areas and is limited to 1993 and earlier model year (MY) urban buses operating in metropolitan areas with 1980 populations of 750,000 or more, whose engines are rebuilt or replaced after January 1, 1995. Operators of the affected buses are required to choose between two compliance programs: Program 1 sets PM emissions requirements for each urban bus engine in an operator's fleet which is rebuilt or replaced; Program 2 is a fleet averaging program that establishes specific annual target levels for average PM emissions from urban buses in an operator's fleet.

Certification of retrofit/rebuild equipment is a key element of the retrofit/rebuild program. To demonstrate compliance under either of the compliance programs, operators of the affected buses must use equipment that has been certified by the Agency.

Emissions requirements under either of the two compliance programs depend on the availability of certified retrofit/rebuild equipment for each engine model. To be used for program 1, equipment must be certified as meeting a 0.10 g/bhp-hr PM standard or as achieving a 25 percent reduction in PM. Equipment used for program 2 must be certified as providing some level of PM reduction that would in turn be claimed by urban bus operators when calculating their average fleet PM levels attained under the program. For program 1, information on life cycle costs must be submitted in the notification of intent to certify in order for certification of the equipment to initiate (or trigger) program requirements. To trigger program requirements, the certifier must guarantee that the equipment will be available to all affected operators for a life cycle cost of \$7,940 or less at the 0.10 g/bhp-hr PM level, or for a life cycle cost of \$2,000 or less for the 25 percent or greater reduction in PM. Both of these values are based on 1992 dollars.

**II. Notification of Intent to Certify**

By a notification of intent to certify signed November 18, 1996, Engelhard applied for certification of equipment applicable to all Cummins L-10 engines that were originally manufactured prior to and including 1993. The notification of intent to certify stated that the candidate equipment would reduce PM emissions 25 percent or more on petroleum-fueled diesel engines that are rebuilt to Cummins specifications.

The candidate equipment consists of a "catalytic converter muffler" or CMX™, that is an exhaust noise muffler containing an oxidation catalyst. Life cycle cost information was submitted with the original notification, along

with a guarantee that the equipment would be offered to all affected operators for less than the incremental life cycle cost ceiling. After completion of its review, EPA determined that the certification approval for the November 18 application was limited to the Cummins L-10 electronically controlled (EC) engines based on the testing data supplied. EPA certified this equipment as a trigger for the requirements for operators using compliance option 1, to reduce PM by 25% when rebuilding or replacing 1992-1993 Cummins L-10 EC models. A document was published in the **Federal Register** on March 30, 1998 (63 FR 13660) announcing this certification.

In a letter to EPA dated April 20, 1998, Engelhard requested that the March 30 certification be amended to include all pre-1994 Cummins L-10 models (including the non-electronically controlled models) and all other 4-stroke urban bus engines. On November 30, 1998 EPA published a document in the **Federal Register** requesting comment on the amendment request and on the appropriateness of the engines being considered for this certification and requested information on any additional engines for which this certification may be applicable. In response, the Detroit Diesel Corporation (DDC) commented that it had certified and produced the Series 50 engine for use in urban bus applications for which this certification might be applicable in the "all other 4-stroke" general category. Accordingly, EPA has included the Series 50 engine for consideration in the "all other 4-stroke" urban bus engine category in this document. Table A below provides a listing of the 4-stroke urban bus engines and the certification levels for which the candidate equipment was considered.

TABLE A.—AFFECTED MODELS AND PROPOSED ENGELHARD CMX CERTIFICATION LEVELS<sup>1</sup>

Cummins/other engine family	Cummins control parts list (CPL)	Manufacture dates	New Engine PM level	Retrofit PM level with CMX	Retrofit PM level with CMX and Cummins kit
343B .....	780	11/20/85 to 12/31/87 .....	0.58	0.44	0.26
343B .....	0781	11/20/85 to 12/31/87 .....	0.59	0.44	0.26
343C .....	0774	11/20/85 to 12/31/89 .....	0.46	0.34	0.26
343C .....	0777	11/20/85 to 12/31/89 .....	0.61	0.46	0.26
343C .....	0996	12/04/87 to 08/19/88 .....	0.61	0.46	0.26
343C .....	1226	07/26/88 to 12/31/90 .....	0.50	0.38	0.26
343F .....	1226	07/12/90 to 08/26/92 .....	0.45	0.34	0.26
343F .....	1441	12/18/90 to 12/31/92 .....	0.46	0.34	0.26
343F .....	1622	04/24/92 to 12/31/92 .....	0.46	0.34	0.26
343F .....	1624	04/24/92 to 12/31/92 .....	0.45	0.34	0.26
Other <sup>2</sup> 4-stroke engines .....	N/A	Pre-1988 .....	0.50	0.38	N/A

TABLE A.—AFFECTED MODELS AND PROPOSED ENGELHARD CMX CERTIFICATION LEVELS<sup>1</sup>—Continued

Cummins/other engine family	Cummins control parts list (CPL)	Manufacture dates	New Engine PM level	Retrofit PM level with CMX	Retrofit PM level with CMX and Cummins kit
CAT GM IH/Navistar MAN Saab-Scania Volvo Other 4-stroke engines .....	N/A	1988 to 1993 .....	( <sup>3</sup> )	( <sup>4</sup> )	N/A
CAT DDC/Series 50 GM IH/Navistar MAN Saab-Scania Volvo					

<sup>1</sup> The new Engine PM certification levels for Cummins engines are based on the certification level or the average test audit result for each engine family. It is noted that for engine family 343F, although the PM standard for 1991 and 1992 was 0.25 g/bhp-hr and the NO<sub>x</sub> standard was 5.0 g/bhp-hr, Cummins certified the 1226, 1441, 1622, and 1624 CPLs to a Federal Emission Limit (FEL) of 0.49 g/bhp-hr PM and 5.6 g/bhp-hr NO<sub>x</sub> under the averaging, banking and trading program.

<sup>2</sup> Applicable to the following 4-stroke engines installed in applicable urban buses: Caterpillar 8 cylinder engines, General Motors 6 cylinder and 8 cylinder engines, International Harvester/Navistar 8 cylinder engines, MAN 6 and 8 cylinder engines, Saab-Scania 6 cylinder engines, and Volvo 6 cylinder engines.

<sup>3</sup> Certification level.

<sup>4</sup> 25% reduction from certification PM levels.

In today's **Federal Register** document, EPA is identifying the engines in the "all other 4-stroke" category as listed in Table A. In a letter to EPA dated March 16, 1998 Engelhard stated that the inclusion of "all other 4-stroke engines" in the Engine Control Systems certification dated January 29, 1998 (63 FR 4445) caused confusion in the marketplace because it was not clear which engines were included in the "all other 4-stroke engine" classification. Accordingly, the November 30 **Federal Register** document sought to clarify this matter by identifying the applicable engines. As stated, EPA's intent is that the list of engines apply to the candidate Engelhard certification discussed herein, the Engine Control Systems certification referenced above, and to future notifications of intent to certify equipment under the urban bus rebuild regulations that include engines in the "all other 4-stroke" classification.

The equipment to be applied to the engines is a "catalytic converter muffler" or CMX™, that is a muffler containing an oxidation catalyst. The CMX is intended to replace the standard muffler previously installed in the engine exhaust system. The CMX is intended to be maintenance free, requiring no service for the full in-use compliance period. The engine fuel to be used with this equipment is standard diesel fuel with a maximum sulfur content of 0.05 weight percent sulfur.

Engelhard presented exhaust emission data from testing a 1987 240hp Cummins L-10 engine, control parts list number 0777 (CPL 0777) and on a Cummins L-10 engine built to CPL 0774 along with additional data to support this certification. Table B below provides a summary of the emissions test data. Under 40 CFR 85.1406(a), a test engine must represent the "worst case" with respect to particulate

emissions of all those engine configurations for which the equipment is being certified. The worst case configuration is defined as the engine configuration having the highest engine-out PM level, prior to installation of the retrofit/rebuild equipment. In the case at hand, the Cummins L-10 test engine has a specified pre-rebuild PM emission level of 0.61 g/bhp-hr listed in the table at section 85.1403(c)(1)(iii)(A). The PM levels listed in the table at section 85.1403(c)(1)(iii)(A) for all other models and are less than the stated level for the L-10 test engine. Accordingly, the engine tested for this certification qualifies as a worst case configuration for the engine models listed in Table A herein. Section 85.1406 of the urban bus rebuild regulation allows the emission results to be extrapolated to engine types and model years known to have engine-out PM levels equal to or less than that of the test engine.

TABLE B.—EXHAUST EMISSIONS SUMMARY G/BHP-HR

Gaseous and particulate test	1987 L-10 baseline CPL# 0774	1987 L-10 baseline CPL# 0777	1987 L-10 w/CMX CPL# 0774 formula 1/formula 2	1987 L-10 w/CMX CPL# 0777
HC .....	2.29	2.29	1.07/0.68	1.07
CO .....	2.19	2.65	1.52/1.01	1.31
NO <sub>x</sub> .....	5.50	5.89	5.23/5.09	5.41
PM .....	0.476	0.473	0.326/0.287	0.335
BSFC <sup>1</sup> .....	0.399	0.413	0.394/0.394	0.400
Smoke Test .....				
ACCEL .....	8.2%	11.7%	9.3%/11.0%	10.9%
LUG .....	1.5%	1.7%	1.8%/1.4%	2.0%
PEAK .....	14.8%	29.2%	15.7%/20.3%	24.8%

<sup>1</sup> Brake Specific Fuel Consumption (BSFC) is measured in units of lb/bhp-hr.

Engelhard did not provide life-cycle cost data relative to this amendment request to include the additional models. Therefore, this equipment is not being considered in today's **Federal Register** document for certification in compliance with the life cycle cost requirements for the additional engines covered by the amendment. However, in a letter dated December 4, 1998, Engelhard requested that life cycle costs apply for this equipment for all applicable models. In the December 4 letter, Engelhard has submitted pricing information along with a guarantee that this equipment will be offered to affected operators for less than the incremental life cycle cost of \$2,000 (in

1992 dollars). On July 30, 1999, a **Federal Register** document was published concerning this request to include life cycle costs (64 FR 41417). Comments have been received in response to the July 30 document and are currently being reviewed by EPA. If certified to comply with life cycle cost requirements, this equipment will trigger program requirements for the engines included in the general category of "all other 4-stroke engines." A separate document will be published in the **Federal Register** announcing EPA's decision on Engelhard's request to certify this equipment to include life cycle costs when the review is complete.

The engines to which the certification announced in today's **Federal Register** document applies are listed in Table C below. The equipment is certified to post-rebuild PM certification levels listed in Table C for each respective engine. Under program 1, all rebuilds or replacements of applicable engines for which a 25% or greater reduction of PM is required may utilize this certified Engelhard equipment (or other equipment certified to reduce PM by at least 25 percent). Urban bus operators who choose to comply with program 2 and use this equipment will use the appropriate PM emission value from Table C when calculating their average fleet PM level.

TABLE C.—ENGELHARD CMX CERTIFICATION LEVELS <sup>1</sup>

Cummins/other engine family	Cummins control parts list (CPL)	Manufacture dates	New Engine PM level	Retrofit PM Level with CMX	Retrofit PM Level with CMX Cummins kit
343B .....	780	11/20/85 to 12/31/87 .....	0.58	0.44	0.26
343B .....	078	11/20/85 to 12/31/87 .....	0.59	0.44	0.26
343C .....	0774	11/20/85 to 12/31/89 .....	0.46	0.34	0.26
343C .....	0777	11/20/85 to 12/31/89 .....	0.61	0.46	0.26
343C .....	0996	12/04/87 to 08/19/88 .....	0.61	0.46	0.26
343C .....	1226	07/26/88 to 12/31/90 .....	0.50	0.38	0.26
343F .....	1226	07/12/90 to 08/26/92 .....	0.45	0.34	0.26
343F .....	1441	12/18/90 to 12/31/92 .....	0.46	0.34	0.26
343F .....	1622	04/24/92 to 12/31/92 .....	0.46	0.34	0.26
343F .....	1624	04/24/92 to 12/31/92 .....	0.45	0.34	0.26
Other <sup>1</sup> 4-stroke engines .....	N/A	Pre-1988 .....	0.50	0.38	N/A
CAT					
GM IH/Navistar					
MAN					
Saab-Scania					
Volvo					
Other 4-stroke engines .....	.....	1988 to 1993 .....	( <sup>3</sup> )	( <sup>4</sup> )	N/A
CAT					
GM					
IH/Navistar					
MAN					
Saab-Scania					
Volvo					

<sup>1</sup> The new Engine PM certification levels for Cummins engines are based on the certification level or the average test audit result for each engine family. It is noted that for engine family 343F, although the PM standard for 1991 and 1992 was 0.25 g/bhp-hr and the NOX standard was 5.0 g/bhp-hr, Cummins certified the 1226, 1441, 1622, and 1624 CPLs to a Federal Emission Limit (FEL) of 0.49 g/bhp-hr PM and 5.6 g/bhp-hr NOX under the averaging, banking and trading program.

<sup>2</sup> Applicable to the following 4-stroke engines installed in applicable urban buses: Caterpillar 8 cylinder engines, General Motors 6 cylinder and 8 cylinder engines, International Harvester/Navistar 8 cylinder engines, MAN 6 and 8 cylinder engines, Saab-Scania 6 cylinder engines, and Volvo 6 cylinder engines.

<sup>3</sup> Certification level.

<sup>4</sup> 25% reduction from certification PM levels.

### III. Summary and Analysis of Comments

EPA received comments from three parties on the Engelhard application during the comment period: Detroit Diesel Corporation (DDC), Johnson Matthey Corporation (JMI), and Engine Control Systems (ECS). DDC is the original manufacturer of the Series 50 engine. JMI and ECS are both certifiers and suppliers of equipment under the urban bus rebuild program.

The Detroit Diesel Corporation (DDC) commented that the DDC Series 50 engine should not be included in the certification. DDC also commented on the reported hydrocarbon results for the baseline test. Regarding DDC's comments relative to the Series 50 engine, DDC stated that it had certified and produced 1992–1993 model year Series 50 engines for use in urban bus applications. DDC stated that the Series 50 is an electronically controlled engine with PM emissions in the range of 0.07

to 0.13 g/bhp-hr that was not equipped with an exhaust catalyst when certified. DDC stated that the Series 50 model engines were not cited in the November 30, 1998 **Federal Register** document and should not be included in this certification among the additional engines in the general class of "all other 4-stroke engines" based on the test data presented in the document. DDC noted that the Engelhard certification tests were for a 1987 model year Cummins L-10 with baseline test results of 0.47 g/

bhp-hr PM and extremely high HC overall suggesting the engine may have a high soluble fraction. DDC stated that since catalysts are known to be most effective on the soluble fraction of particulate and relatively ineffective in reducing the dry soot, the overall catalyst effectiveness increases with the soluble fraction. DDC states that the Series 50 has low PM with a low soluble fraction. Because of the differences in the quantity and composition of particulate emissions from the two engines, it would not be appropriate to extrapolate the results of the Engelhard L-10 testing to conclude that the CMX will achieve the required 25% particulate reduction when applied to the Series 50 engines. Thus, DDC stated the Series 50 inclusion in this certification would not be justified.

In response to DDC's comment, Engelhard provided data from testing conducted on a 1995 275 hp DDC Series 50 engine. Engelhard conducted testing using CMX technology exploring the effects of fuel sulfur on particulate matter emissions. Fuel sulfur levels of 500 parts per million (ppm) and 315 ppm were run on the CMX catalyst. The report containing this data titled, "The Effect of Diesel Sulfur Content and Oxidation Catalysts on Transient Emissions at High Altitude from a 1995 Detroit Diesel Series 50 Urban Bus Engine" has been placed in the public docket listed above. After review of the above report and the comments received, EPA determined that additional information would be needed before it could be determined that Engelhard had demonstrated a 25% PM reduction for Series 50 engine. Upon EPA informing Engelhard of the need for additional data and evaluation relative to the Series 50 engine, Engelhard requested that the Series 50 be removed from consideration under this certification. Engelhard made this request so that certification approval for the remaining models would not be delayed due to time necessary to receive and evaluate additional information relative to the Series 50. Accordingly, EPA has removed the Series 50 model from consideration under this certification. However, as noted earlier the Series 50 was added to the general class of "all other 4-stroke engines" for consideration under the Urban Bus Rebuild Program.

DDC's second comment concerns the hydrocarbon (HC) level reported as 2.29 g/bhp-hr in the baseline Cummins L-10 engine test. DDC states that this HC level is indicative of an engine fault and questions the certification data. In response, Engelhard notes that while this engine does have high HC

emissions, data from five tests conducted after it had rebuilt this engine to various configurations consistently show HC emissions that are around 2.0 g/bhp-hr on average with standard Cummins rebuild specifications. The HC result for the certification test of the CPL 0777 configuration provided by Engelhard in the amendment was 2.29 g/bhp-hr. EPA notes that based on the consistent HC results for this engine after rebuild, it is apparent that the HC results are inherent to this engine in a standard rebuild configuration. EPA notes that it has seen considerable variation in the test results for baseline engines for the applications that have been reviewed for certification. Consistent with 40 CFR 85.1406(a), the certification engine is not required to meet Federal emission standards before the retrofit/rebuild equipment is installed. The retrofit/rebuild regulation requires that the PM reduction must be shown to be incremental to a standard rebuild. Based on the fact that the baseline engine in this certification was rebuilt to a standard configuration with no obvious defects, EPA finds the results to be acceptable. It is noted that with the addition of the CMX technology the HC emissions are reduced to 1.07 g/bhp-hr during testing and are within specified standards in accordance with the regulations. After review of the data presented, EPA finds that the test engine and the emission results presented are acceptable.

Engine Control Systems, Ltd. (ECS) commented that this application should be reviewed in conjunction with the life cycle costs as submitted in Engelhard's December 4 letter, in order to solicit the full range of comments needed to justify triggering the 25% PM reduction requirements for the affected engines. ECS also commented on catalyst applicability, effectiveness, performance, PM reduction, backpressure, and the identification of the different catalyst formulations. ECS commented on testing it has performed and results of Engelhard testing on Cummins N14 engines and other data conveyed by Engelhard. ECS also commented that it should be clearly stated that this certification applies only to applicable urban bus engines.

With regard to the ECS comment that product performance and cost should be addressed together to solicit the full range of comments for those engines constituting the "all other 4-stroke" category, the urban bus retrofit/rebuild regulation allows for certification based on emission reduction without including cost data. In response, EPA believes that the urban bus retrofit/

rebuild regulation clearly allows for certification based on emission reductions without cost data. In fact, prior to this certification review, EPA has reviewed and approved several certifications of equipment under this program without life cycle cost data.

Life cycle cost data is necessary to trigger retrofit/rebuild requirements under program 1. Since Engelhard had not provided cost information with this amendment request, this certification will not trigger new requirements for any of the affected engines and a review of cost data is not necessary for approval. However, Engelhard has more recently requested to include cost data and to certify this equipment within the specified life cycle cost requirements. A document was published in the **Federal Register** on July 30, 1999 (64 FR 41417) regarding this amendment request to include life cycle costs for this certification. Comments have been received and are currently under review. A separate document will be published in the **Federal Register** announcing EPA's decision after review is completed.

ECS has requested that Engelhard divulge its catalyst formulation and size publicly. Engelhard states that this information is proprietary and declines to provide this information in a public format. Customarily, EPA allows manufacturers to maintain catalyst specifications as confidential business information provided such information is presented for EPA review and is found to be acceptable. Engelhard has provided descriptions of the various catalysts and formulations used during testing and EPA finds the information presented to be acceptable under the urban bus program.

ECS commented that it is not clear which formulation is being proposed to cover the 4-stroke engines included in this certification. If different formulations are proposed which catalysts are meant to cover the various engines? What data shows the effectiveness of these formulations and how will they be identified in the marketplace to ensure appropriate use? Engelhard has responded that it will provide a specific CMX unit for a specific bus and engine combination using the certified catalyst. In the amendment request and subsequent information, Engelhard documented tests performed on a wide range of catalyst formulations on an engine designated to be the "worst case" and has also provided data based on other engine configurations. In the regulations, EPA stated it will allow results of emission tests for after treatment devices to be extrapolated to

engine types and model years known to have engine-out PM levels equal to or less than the test engine. In the application, Engelhard has presented data from Cummins engine with CPL 0777 which is considered to be the worst case configuration for the engines to be included in this certification. In addition, Engelhard has presented data from tests performed on Cummins CPL 0774 to support this amendment request. Engelhard has responded that in order to simplify certification, it will only utilize the catalyst formulation tested on the Cummins L-10 CPL 0777. EPA has reviewed the effectiveness of the formulation to be used with this equipment and designated for this certification and finds it to be acceptable. ECS commented that the emissions profile of Cummins L-10 engine (CPL 0777) that Engelhard tested was significantly different from the L-10 engine ECS tested for its certification. ECS commented that Engelhard testing of CPL 0774 showed very high insoluble carbon reductions and ECS questions on all the L-10 test data. The urban bus retrofit/rebuild rule does not specify the percentage reduction which must occur in either the soluble or insoluble PM fractions. In its March 30, 1998 submission, Engelhard provided data showing that the CMX technology reduces the total particulate matter by at least 25 percent based on the tests conducted on CPL 0774. While it is recognized that the insoluble portion of the PM appears relatively high, Engelhard has provided data showing the CMX technology reduces the soluble and the insoluble fraction of total particulate to meet the requirements of the bus regulation. Furthermore, Engelhard has provided test data for CPL 0777 demonstrating at least a 25% reduction in total PM. No data was provided by Engelhard regarding the soluble versus insoluble portion of the PM for CPL 0777. However, such data is not an explicit requirement of the regulation. Based on the total PM reduction shown in the test data, EPA finds that the test results demonstrate compliance with the standard of reducing PM by at least 25%.

ECS commented that the tests conducted by Engelhard were conducted in a very uniform and procedural fashion with a backpressure setting which is atypical from actual in-use applications. Further, ECS commented that additional support data should be required to determine whether claimed PM reductions will occur on actual in-use buses. The regulation clearly states that the emission test to be used is the Heavy-

Duty Engine Federal Test Procedure set forth in 40 CFR Part 86 Subpart N or an approved alternative test procedure. EPA notes that the testing supplied by Engelhard for this certification was conducted according to the specified test procedure as put forth in 40 CFR and is accepted.

The urban bus retrofit/rebuild regulation does not require durability testing or in-use testing. However, it does require that the certifier supply a defect warranty over the initial 100,000 mile period of use of a certified system. Accordingly, the certifier is required to replace any defective part that is included in the certified kit during the 100,000 mile warranty period. As well, the certifier is required to warrant that the equipment, if properly installed and maintained, will meet the emission requirements for a period of 150,000 miles from when the equipment is installed.

ECS commented that both Engelhard and ECS are participating in Ottawa test programs. Specifically, Engelhard CMX technology has been retrofit on two buses equipped with Cummins N14 4 stroke/cycle engines. ECS asked if Engelhard will disclose the results of this testing to EPA and discuss the results. ECS believes that the data from the Ottawa program does not support a broad certification of the CMX for all 4 stroke/cycle engines for a 25% PM reduction. In response Engelhard has stated that this information is not relevant to this application because the catalyst used during that program was undersized compared to the catalyst which would be supplied under this certification. Engelhard asserts that a properly sized CMX catalyst will achieve the 25% reduction over the FTP on an N-14 engine.

ECS provided documentation which ECS stated was presented by Engelhard at a recent workshop in Hong Kong. ECS comments that the data presented shows that the expected PM emissions reductions with the CMX converter muffler for several engine families is below 25%. In response Engelhard states that the referenced data incorporates testing on undersized catalysts and that the data referenced by ECS was based on obsolete catalyst formulations. Engelhard will utilize only the high activity catalyst formulation used for testing the Cummins L-10 CPL 0777 in this application. A description of this catalyst was provided by Engelhard as confidential business information for EPA's review. EPA finds that Engelhard has demonstrated that this catalyst will provide for at least a 25% PM reduction on the applicable engines included in

this certification. Engelhard states that it will size the catalyst according to the applicable engine size to achieve the specific PM reductions specified.

In the data provided with this amendment, Engelhard has documented test results utilizing a range of catalyst formulations on the worst case configuration. EPA finds that this data demonstrates that the Engelhard CMX will reduce PM by a minimum of 25 percent. The regulation allows that after treatment devices such as the CMX equipment may be applied to other engines based on testing performed on the worst case engine. Engelhard has complied with this requirement for this certification.

ECS requested that EPA specifically state, in granting of any 4-stroke engine certification based on emissions from data from a single engine, that such certifications only apply to specific urban bus engines. In this document, EPA has identified the specific urban bus engines to which it applies. ECS also requested that EPA state that this certification should not be used by state agencies in the assessment of non-urban bus retrofit programs. EPA does not believe this statement is appropriate in this document because it is outside of the purview of the urban bus rebuild program.

The Johnson Matthey Corporation (JMI) commented on the use of CPL 0777 as the worst case configuration. JMI also commented on the use of two different catalyst formulations during emission testing and questioned which was used during certification testing and how each formulation would be identified for use.

Johnson Matthey Corporation (JMI) commented that the worst case engine should be based on the highest exhaust flow rate rather than using the engine with the highest engine out PM. JMI commented that Engelhard should explain the reasoning for selecting CPL 0777. The regulations specify that the worst case engine configuration shall be the engine configuration having the highest engine-out particulate matter emission levels prior to installation of the retrofit/rebuild equipment. The Cummins engine CPL 0777 meets this criteria and qualifies as the worst case engine configuration for the engines included in this certification under the regulations.

JMI commented that Engelhard provides performance data for two different catalyst formulations on the engine configured to CPL 0744. JMI commented that only one catalyst formulation was tested on CPL 0777 and Engelhard should be required to identify which formulation was used for

certification testing. In addition, Engelhard should present conclusive information regarding the specific formulation tested. Further, if more than one formulation is being certified, the EPA should require Engelhard to clearly identify each formulation and where it may appropriately be used. Engelhard has responded that in order to simplify certification, it will only utilize the catalyst formulation tested on the Cummins L-10 CPL-0777. Engelhard has provided confidential business information on the catalyst formulation used in certification testing. EPA finds it to be acceptable.

#### IV. Certification Approval

The Agency has reviewed this application, along with comments received from interested parties, and finds that this equipment reduces particulate matter emissions without causing urban bus engines to fail to meet other applicable Federal emission requirements. Additionally, EPA finds that installation of this equipment will not cause or contribute to an unreasonable risk to the public health, welfare or safety, or result in any additional range of parameter adjustability or accessibility to adjustment than that of the engine manufacturer's emission related part. The application meets the requirements for certification under the Retrofit/Rebuild Requirements for 1993 and Earlier Model Year Urban Buses (40 CFR 85.1401 and 85.1415).

#### V. Operator Requirements and Responsibilities

This equipment may be used immediately by urban bus operators who have chosen to comply with either program 1 or program 2 and who have applicable engines. Currently, operators having certain of the applicable engines who have chosen to comply with program 1 must use equipment certified to reduce PM emissions by 25 percent or more when those engines are rebuilt or replaced. Today's **Federal Register** document certifies the above-described Engelhard equipment as meeting this PM reduction requirement for all engine models listed in Table C herein. Urban bus operators choosing to comply with program 1 must use the certified Engelhard equipment (or other equipment that is certified in the meantime to reduce PM by at least 25 percent) for any Cummins engine that is listed in Table C that undergo rebuild. The requirement to use certified equipment demonstration a 25 percent reduction in PM for the Cummins engines listed is based on an earlier certification by the Cummins Engine

Company as published in a **Federal Register** document dated December 13, 1995 (60 FR 64048). The requirement remain until such time as the 0.10 g/bhp-hr standard is triggered for the applicable engines. For the engines included in the general class of "all other 4-stroke engines" as listed in Table C the requirement to use 25 percent reduction equipment will be based on EPA decision on the December 4, 1998 amendment request from Engelhard referenced earlier. In the December 4 request Engelhard submitted pricing information along with a guarantee that this equipment will be offered to affected operators for less than the incremental life cycle cost of \$2,000 (in 1992 dollars) for these engines. On July 30, 1999, a **Federal Register** document was published concerning this request to include life cycle costs (64 FR 41417). Comments have been received in response to the July 30 document and are currently being reviewed by EPA. If certified to comply with life cycle cost requirements, this equipment will trigger program requirements for the engines included in the general category of "all other 4-stroke engines" under program 1. Operators who choose to comply with program 2 and use the Engelhard equipment will use the appropriate PM emission level from Table C when calculating their fleet level attained (FLA).

As stated in the regulations, operators should maintain records for each engine in their fleet to demonstrate that they are in compliance with the requirements, beginning January 1, 1995. These records include purchase records, receipts, and part numbers for the parts and components used in the rebuilding of urban bus engines.

Dated: January 21, 2000.

**Robert Perciasepe,**  
Assistant Administrator for Air and Radiation.

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#### ENVIRONMENTAL PROTECTION AGENCY

[NV-0038-0019; FRL-6530-7]

#### Adequacy Status of the Clark County, Nevada Submitted CO Attainment Plan for Transportation Conformity Purposes

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of inadequacy determination.

**SUMMARY:** In this document, EPA is notifying the public that we have found that the submitted Clark County (Las Vegas, NV) serious area carbon monoxide (CO) attainment plan is inadequate for transportation conformity purposes. As a result of our finding, the Regional Transportation Commission and the Federal Highway Administration cannot use the CO motor vehicle emissions budgets from the submitted plan for future conformity determinations.

**DATES:** This determination is effective February 17, 2000.

**FOR FURTHER INFORMATION CONTACT:** The finding is available at EPA's conformity website: <http://www.epa.gov/oms/traq>, (once there, click on the "Conformity" button, then look for "Adequacy Review of SIP Submissions for Conformity"). You may also contact Karina O'Connor, U.S. EPA, Region IX, Air Division AIR-2, 75 Hawthorne Street, San Francisco, CA 94105; (415) 744-1247 or [occonnor.karina@epa.gov](mailto:occonnor.karina@epa.gov).

#### SUPPLEMENTARY INFORMATION:

##### Background

This document announces our finding that the *Carbon Monoxide Air Quality Implementation Plan for the Clark County Non-Attainment Area*, submitted by Nevada on October 6, 1999, is inadequate for transportation conformity purposes. EPA Region IX made this finding in a letter to the Nevada Division of Environmental Protection on January 12, 2000. We are also announcing this finding on our conformity website: <http://www.epa.gov/oms/traq>, (once there, click on the "Conformity" button, then look for "Adequacy Review of SIP Submissions for Conformity"). Transportation conformity is required by section 176(c) of the Clean Air Act. Our conformity rule requires that transportation plans, programs, and projects conform to state air quality implementation plans (SIPs) and establishes the criteria and procedures for determining whether or not they do. Conformity to a SIP means that transportation activities will not produce new air quality violations, worsen existing violations, or delay timely attainment of the national ambient air quality standards.

The criteria by which we determine whether a SIP's motor vehicle emission budgets are adequate for conformity purposes are outlined in 40 CFR 93.118(e)(4). One of these criterion is that the plan provide for attainment of the relevant ambient air quality standard by the applicable Clean Air Act attainment date. We have