



Announcing the MSRC's

Showcase II Manufacturer Program

**An Opportunity for Manufacturers of Off-Road
Diesel Emission Control Systems**

**Request for Manufacturer Qualifications &
Participation Application**

RFQ2011-07

February 4, 2011

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SECTION I.A: PROGRAM INTRODUCTION

The Mobile Source Air Pollution Reduction Review Committee (MSRC) is pleased to announce an opportunity for manufacturers of diesel emission control system technologies to demonstrate the viability and effectiveness of their products in heavy-duty off-road diesel equipment under various operating conditions and duty cycles. The Off-Road Diesel Retrofit “Showcase II” Program is designed to encourage manufacturers of qualifying retrofit devices to participate with off-road vehicle fleet owners in retrofitting their equipment with diesel emission control devices that reduce diesel particulate matter (PM), diesel PM plus oxides of nitrogen (NO_x), or NO_x only.

While the Showcase Program will result in significant immediate reductions in harmful diesel emissions, the principal goal is to successfully demonstrate the viability and effectiveness of diesel emission control systems on those segments of the off-road heavy-duty diesel equipment inventory which are not yet fully served with such systems. If they have not already obtained verification, manufacturers participating in this Program must commit to seek CARB verified status following successful demonstration of their retrofit device.

All diesel emission control devices must be qualified pursuant to this RFQ before they can be approved for the retrofit of specific vehicles. The qualification of a device for participation in the Showcase II Program will be based upon evaluation of the Qualifications & Participation Application submitted by the interested retrofit device manufacturer. Applications will be evaluated by the technical staff of the MSRC, CARB, and South Coast Air Quality Management District (AQMD).

While the MSRC strives to be inclusive with its **Clean Transportation Funding™** programs, it is important to state up front that the Showcase II Demonstration Program is unique. While each manufacturer seeking participation in the Program will be given thorough and thoughtful consideration, some manufacturer applications may not be deemed qualified. Once qualified, there is no guarantee that a particular device will be matched with any vehicles.

I.B. PROGRAM SCHEDULE

The Showcase II demonstration program will be conducted in accordance with the timeline shown below. Manufacturer Participation Applications will be accepted as of February 4, 2011. Participation Applications will be accepted for an eight-month period, closing on October 7, 2011. Applications may be submitted at any time during this period. The MSRC may elect to extend the period during which applications may be submitted.

Table 1.B.1: Key Program Dates

Showcase II Event	Date
Program Announcement & Application Release	February 4, 2011
Earliest Date for Application Submission	February 4, 2011
Manufacturer Workshop	February 24, 2011
Last Date that Applications will be Accepted	October 7, 2011
Qualification of Devices	Continuously throughout application period and months immediately following
Matching of Devices with Equipment	

MSRC and CARB staff members are available to answer questions and provide technical guidance anytime during the application acceptance period. Please refer Section I.G. of this document for a list of staff contacts.

I.C. MANUFACTURER WORKSHOP

A joint MSRC/CARB Manufacturer Workshop will be held on Wednesday, February 24, 2011. **Please note that attendance at the Manufacturer Workshop is voluntary.** The purpose of the Manufacturer Workshop is to provide new or updated solicitation information, provide clarification regarding this Request for Qualifications, and answer general questions regarding application preparation. In addition, the Manufacturer Workshop will provide a forum to address individual application preparation issues and provide one-on-one guidance to potential applicants. The location and time for the Manufacturer Workshop is as follows:

Date: February 24, 2011
 Time: 1:00 p.m. – 2:00 p.m.
 Location: South Coast AQMD Headquarters
 Conference Room CC-6
 Address: 21865 Copley Drive
 Diamond Bar, California 91765

Please note that the Applicant Workshop for the Showcase II Vehicle Program Announcement PA2011-07 will be convened immediately following the Manufacturer Workshop. Manufacturers are welcome to attend both workshops. Please contact the MSRC staff if you need more information regarding either Workshop or directions to the South Coast AQMD Headquarters. Contact information is provided in Section I.G.

I.D. PARTICIPATION GUIDELINES, REQUIREMENTS, & PROCEDURES

The Showcase II Program is a voluntary demonstration program that will pair manufacturers of diesel emission control retrofit devices with off-road vehicle operators located in the South

Coast Air Quality Management District (AQMD)¹. To ensure that the Showcase II Program conforms to all applicable AQMD legal requirements and MSRC policies, the following requirements and conditions have been established and apply to all manufacturer applicants:

1. **Eligible Participants** – Any manufacturer of off-road diesel emission control systems may apply. The applicant must manufacture the proposed device. Authorized distributors or vendors are not eligible to submit applications to this RFQ, although they can respond to its companion Program Announcement PA2011-07 – Showcase II Vehicle Program, as described therein. Devices brought forward by manufacturers who demonstrate experience with the verification process, by virtue of having earned a prior on-road or off-road verification from the United States Environmental Protection Agency’s (U.S. EPA) **Voluntary Retrofit Program**, CARB’s **Verification Procedure**, or the **Verminderung der Emissionen von Realmaschinen im Tunnelbau** (VERT) program for one or more of their company’s products, are more likely to be deemed qualified.
2. **Authorized Individual(s)** – Only those individuals designated as authorized representatives by the manufacturer of the diesel emission control system may sign the application form as agreement to participate in the Showcase II Program, and as such, will be held responsible for the accuracy of any and all information provided.
3. **Diesel Emission Control Strategy Requirement** – Devices which reduce NO_x only are eligible for demonstration. Otherwise, devices must reduce particulate matter emissions by at least 85% (Level 3 verification) except in cases where installation of a Level 3 device poses insurmountable visibility challenges as discussed below in Section I.E. - Priority Retrofit Profiles. However, all Showcase II Program diesel emission control system devices which control particulate matter must achieve a reduction in particulate matter emissions of at least 50% (Level 2 verification).
4. **Verification Requirement** – As previously stated, one of the primary goals of the Showcase II Program is to obtain new verified diesel emission control systems for those segments of the off-road heavy-duty diesel equipment inventory which are not yet fully served with such systems. Therefore, if they have not already obtained verification, **manufacturers participating in Showcase II must intend to pursue verification of their product through CARB in the near future**. In all cases, applicants must agree to comply with all requirements and conditions as detailed in the CARB Verification Procedure. Complete information may be found in the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* on the CARB website at: www.arb.ca.gov/diesel/verdev/verdev.htm
5. **Experimental Permit Requirement** - Manufacturers are required to obtain an experimental permit(s) before installing a non-ARB verified device or system on an engine for use in the Showcase project. Section 43014 of the California Health and Safety Code allows the Air Resources Board to issue this permit for the testing of experimental motor vehicle pollution control device installed in used motor vehicles. To obtain a permit, the manufacturer must submit a letter of request to:

¹ The geographical jurisdiction of the South Coast AQMD includes the urban, non-desert portions of Los Angeles, Orange, Riverside, and San Bernardino Counties in Southern California.

Air Resources Board
Aftermarket Parts Section
9480 Telstar Avenue
El Monte, CA 91731
Attn: Ms. Rose Castro

These experimental permits are valid for one year from the date of signature and are not transferable. If the demonstration testing for the Showcase project continues beyond this time period, the manufacturer must apply for an extension of the permit(s).

Questions regarding this requirement should be addressed to:

Ms. Rose Castro, Manager, Aftermarket Parts Section, at (626) 575-6848.

6. **Modification of Device** – Once proposed in response to this RFQ, a manufacturer's product *cannot* be modified without first notifying the MSRC. This includes, but is not limited to, modifications following device installation. In most cases, modifications to installed devices will restart the accumulation of durability hours.
7. **Conditional Verification** – Applicants may be eligible to receive conditional verification of their product by completing one-third of the required minimum durability period or through the use of preexisting data. Conditional verification is equivalent to full verification for the purposes of satisfying the requirements of in-use emission control regulations as set forth by CARB.
8. **Application Screening** – Applications received in response to this RFQ will be screened to ensure they comply with all program requirements and policies of the MSRC and CARB. Applications deemed noncompliant with the requirements included herein will be returned to the applicant and will not undergo further evaluation. The MSRC retains sole authority for determining whether or not an application meets the minimum qualifications requirements.
9. **Selection Criteria** – Rating of manufacturer's applications will include the selection criteria as outlined in Section I.F. Those applications which are judged both to fulfill mandatory requirements and to provide a high probability of successful demonstration will be deemed Pre-Qualified. A device must be Pre-Qualified before it can be matched with a vehicle. However, achieving Pre-Qualified status is no guarantee that the device will be matched with any vehicles.
10. **Device/Vehicle Matching** – Vehicles will be proposed for retrofit in response to the Showcase II Vehicle Program Announcement PA2011-07. Retrofit devices will be matched with proposed off-road vehicles based on applicability and compatibility of technologies. In those cases where a vehicle owner proposes a vehicle to be retrofit without proposing a specific device, one or more pre-qualified manufacturers deemed compatible with the proposed vehicle, engine and duty-cycle will be asked to provide a quote to retrofit that vehicle. Final match decisions will be made by MSRC and CARB based upon factors including, but not limited to, device purchase and maintenance costs, and the vehicle/device pairing's ability to address Program priorities. Both the manufacturer and the vehicle owner will be asked to approve the proposed match. If a manufacturer and/or vehicle owner declines a proposed match, MSRC and CARB may, at their discretion, propose an alternative match for that vehicle.

11. **Multimedia Assessment** – Manufacturers whose diesel emission control strategies rely on Alternative Diesel Fuel or a fuel additive must complete a multimedia assessment to ensure that their product does not have any adverse effect on the environment. The multimedia requirement represents a significant cost of verification and applicants should thoroughly understand the process before deciding to undertake this testing. Information on the multimedia requirement may be found in the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines*, Section 2710, available on CARB's website at: www.arb.ca.gov/diesel/verdev/verdev.htm. Applicants intending to utilize alternative diesel fuel or fuel additives are encouraged to contact Ms. Shawn Daley (see Contact Information Section I.G.) to discuss multimedia requirements.
12. **Initial Vehicle Evaluation** – Once a vehicle/device match is approved and a contract executed, the manufacturer will be required to complete initial data logging in accordance with MSRC and CARB guidance to confirm the feasibility of the particular device's operation. Reasonable data logging costs will be reimbursed. The manufacturer is also required to evaluate the vehicle's engine to assure readiness for retrofit, i.e. that it is well maintained, and to provide the results of the evaluation to MSRC. MSRC and CARB staff may agree to allow these evaluations to be performed in a single visit, but retain the discretion to require a satisfactory engine evaluation prior to the performance of data logging.
13. **Additional Installation Requirements** – A proposed installation design drawing showing the location of major components must be submitted and approved for each vehicle prior to installation. The design must demonstrate compliance with the CalOSHA visibility requirements. Additionally, notwithstanding any data-logging capabilities incorporated in the after-treatment device, the manufacturer will be required to purchase and install an independent data-logging device on each retrofitted vehicle to monitor the after-treatment device. It shall be and function as a stand-alone system, complete with the hardware and software needed to interface with the vehicle. Required specifications will be provided in the contract, but are expected to resemble the specifications in the original Showcase Program. Reasonable installation design and data logger costs will be reimbursed to the Project Participant following completion of the installation in accordance with the approved installation design.
14. **Optional Particulate Matter Sensors** – In the recent past, engine mechanics relied on visual cues such as smoke to determine whether an engine was in need of attention. With the use of diesel particulate filters these cues are absent. Manufacturers *may* propose the installation of particulate matter sensors as a tool to indicate if the state of the engine has changed and to predict the soot loading rate to the filter. By notifying the vehicle owner and/or device manufacturer of changes in engine condition, the frequency of device regeneration might be reduced. Requests to include such sensors as part of a Showcase II demonstration will be considered as part of the vehicle/device matching process. If the use of such sensors is approved for a particular retrofit, their purchase and installation will be an allowable expense.
15. **Available Funding** – The amount of MSRC funding currently allocated to the Showcase II Program is \$2,250,000.
16. **Participation with Multiple Off-Road Construction Equipment Fleets** – Manufacturers may participate with more than one off-road vehicle owner, if applicable.

17. **Payment** –The contractor under PA2011-07 – Showcase II Vehicle Program will be able to request reimbursement from the MSRC for initial vehicle data logging upon completion. All other reimbursements are contingent upon completion of retrofit device installation, submission of all required reports and invoices, and completion of a post-inspection to confirm installation in accordance with approved installation design. Payment will also be contingent upon proof of warranty with coverage for full repair or replacement cost of returning engine components to the condition they were in prior to the failure, for damage to the engine proximately caused by the after-treatment device. Vehicle owners will have the *option* to, but are not required to, request that payments be made directly to the manufacturer or vendor. Each Manufacturer should negotiate payment provisions with the vehicle owner as part of their agreement.
18. **Agreement with Vehicle Owner** – Manufacturers will be required to enter into a contract and/or legally enforceable agreement with the off-road vehicle owner for the purchase and installation of the agreed-upon retrofit device(s). All after-treatment devices must be purchased and installed within twelve (12) months of execution of this Agreement. All devices are to become the property of the vehicle owner.
19. **Priority Retrofit Profiles** – \$1,250,000 of the available funding under PA2011-07 is initially set aside for priority retrofits. Profiles of priority vehicle and retrofit demonstrations sought for participation in the Showcase II are provided in Section I.E. for your information. These profiles are primarily based upon identified “holes” in the universe of available off-road retrofits. For example, a certain vehicle may have verified devices but needs demonstration of a Cal/OSHA compliant installation design. *These profiles have no bearing on a proposed device achieving Pre-Qualified status.* Devices with the potential to fulfill one of the designated priorities may be more likely to be matched with vehicles, as a portion of the funding under the Vehicle Program Announcement is initially reserved for these categories.
20. **Technical Support and Issue Resolution** – Manufacturers will be required to provide at least four hours of training to fleet personnel, as well as on-site technical support for the duration of the demonstration project, which will include 1000 hours of operation. This may include, but is not limited to: troubleshooting device installation issues; malfunction of backpressure monitors; training of equipment operators in device operation and regeneration; any other issue that may arise while the demonstration is in progress. Manufacturers will be expected to respond to a complaint or issue reported by a fleet or by MSRC within 24 hours. On-site response by the manufacturer or its local service representative must be made in a time frame acceptable to the fleet. Failure to promptly respond to complaints or issues will be considered in future applications by the manufacturer. .

I.E. PRIORITY RETROFIT PROFILES

Priorities for retrofit span a number of characteristics, so that some vehicles and/or retrofits may fall into more than one Priority category, but any of the following will qualify as Priority:

1. **Vehicles Difficult to Retrofit Without Impacting Driver Visibility** – Some vehicle designs are more challenging to retrofit in compliance with Cal/OSHA visibility requirements. The MSRC believes that, in many of these cases, a motivated manufacturer or installer could develop a solution using a verified Level 3 device, and higher than average installation design costs would be allowable. For this category only, Level 2 devices could be

demonstrated in the interests of achieving substantial emission benefits when it is not feasible to install a Level 3 device. Representative vehicles in this category include, but are not limited to, the following vehicle types:

- Deere 624J wheel loader
- Caterpillar RC60 forklift
- Deere 200CLC excavator
- Deere 225C excavator
- Rollers (including Ingersoll Rand, Dynapac, Cat, and Hyster)
- Cat 613C scraper
- Cat 623B scraper
- Deere 772D grader
- Dresser 850 grader

2. **Engine Size** – Vehicles equipped with 500 horsepower or greater engines
3. **Engine Technology** – Vehicles equipped with engines which utilize exhaust gas recirculation (EGR) to reduce NO_x emissions
4. **Vehicle Operating Location** – Vehicles which are, or will be, operating at ports or landfills
5. **NO_x Reduction Technology** - Retrofit devices which utilize non-urea-based technologies for NO_x control

I.F. DEVICE EVALUATION & SELECTION CRITERIA

Each diesel emission control system or device proposed by a manufacturer for demonstration in the Showcase II Program will undergo evaluation by a Committee comprised of representatives of the MSRC, South Coast AQMD and CARB staff. The criteria set forth below will be considered in the evaluation process to determine whether a device is deemed Pre-Qualified:

1. **Mandatory** – Failure in either of these elements will automatically disqualify the product:
 - a. If product is not already verified, applicant must attest their intention to complete the verification process for the product in the near future.
 - b. Applicant must also agree to provide technical support throughout the demonstration project period.
2. **Other Criteria** – these criteria will also be considered in determining Pre-Qualification status:
 - a. Demonstrated manufacturer experience
 - b. Anticipated/verified PM reduction level (Level 2 devices can only be used on vehicles with insurmountable visibility issues)
 - c. Potential increase in pollutants other than NO_x or PM
 - d. Feasibility of control device operation and installation
 - e. Readiness for commercial availability
 - f. Cost of device, installation, and maintenance
 - g. Manufacturer's methods for evaluating vehicles for retrofit

I.G. IF YOU NEED HELP... CONTACT INFORMATION

This Request for Qualifications and Participation Application can be obtained by accessing the MSRC web site at www.cleantransportationfunding.org or the Air Resources Board Showcase website at www.arb.ca.gov/diesel/showcase/showcase.htm. MSRC and CARB staff members are available to answer questions during the application acceptance period. In order to help expedite assistance, please direct your inquiries to the applicable staff person, as follows:

- For **General & Administrative Assistance**, please contact:

Ms. Cynthia Ravenstein
MSRC Contracts Administrator
Phone: 909-396-3269
Fax: 909-396-3682
E-mail: cravenstein@aqmd.gov

- For **Testing and Installation**, please contact:

Mr. John Karim
CARB In-Use Retrofit Section
Phone: 626-459-4303
Fax: 626-575-6699
E-mail: jkarim@arb.ca.gov

- For **Verification Program**, please contact:

Ms. Shawn Daley
Manager, CARB Retrofit Assessment Section
Phone: 626-575-6972
Fax: 626-575-6699
E-mail: sdaley@arb.ca.gov

- For **Experimental Permits**, please contact:

Ms. Rose Castro
Manager, Aftermarket Parts Section
Phone: 626-575-6848
Fax: 626-575-6699
E-mail: rcastro@arb.ca.gov

SECTION II: APPLICATION PROCESS

II.A. APPLICATION INSTRUCTIONS

A Participation Application must be completed and submitted prior to receiving approval to participate in the Showcase II Program. A separate application must be submitted for each device proposed for Qualification. The application forms are included in Section II.B. of this document. Applications must be submitted in accordance with the instructions outlined below and all requested information must be supplied.

1. **Application Elements** - All applications must contain the following:

- a) **Cover letter** - Transmittal of the application must be accompanied by a cover letter signed by the person(s) authorized to contractually bind the proposing entity. In the cover letter, applicants must agree to provide technical support during the demonstration project period. And if the proposed product is not already verified, applicant must attest their intention to complete the verification process for the product in the near future.
 - b) **Application Forms** - Applications must include completed Forms, including all required attachments and supporting documentation as requested.
2. **Application Submittal Instructions** - All applicants must submit four (4) complete copies in a sealed envelope, marked in the upper left-hand corner with the name and address of the applicant and the words "RFQ2011-07 Showcase II Manufacturer Program". The earliest date for application submittal is February 4, 2011. Please note that Showcase applications must be received no later than 5:00 p.m. October 7, 2011 to be considered. All applications should be directed to:

Procurement Unit
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

In addition to the paper application, applicants must also submit an electronic copy of their application in either PDF or Microsoft Word format. This should be provided via CD-ROM in care of the Procurement Unit at the street address listed above.

*Please note that the application is only deemed "received" when the four (4) complete paper copies are submitted in accordance with the above instructions - submittal of an electronic application only does not constitute receipt by the AQMD. In addition, please note that faxed applications will not be accepted. All applications will be time and date stamped upon receipt by the South Coast Air Quality Management District. **PLEASE NOTE THAT ANY PROPOSAL TIME STAMPED 5:01 P.M. OR LATER ON OCTOBER 7, 2011 WILL NOT BE REVIEWED AND WILL NOT BE DEEMED PRE-QUALIFIED; AND THEREFORE WILL NOT BE ELIGIBLE TO PARTICIPATE.** No exceptions will be granted regardless of reason or circumstances.*

3. **Addenda** – The MSRC may modify the RFQ and/or issue supplementary information or guidelines relating to the RFQ during the application preparation period of February 4, 2011 through October 7, 2011. Any solicitation amendments will be posted on the MSRC Website at www.CleanTransportationFunding.org.
4. **Application Modifications** - Once submitted, applications cannot be altered without the prior written consent of the MSRC.
5. **Application Screening** - Applications received in response to this Showcase II RFQ will be screened upon receipt to insure they comply with all program legal requirements of the AQMD and policies of the MSRC and CARB. Applications that do not comply with the stipulated requirements will be returned to the applicant for revision and resubmission. Only applications received that comply with all minimum submission requirements will be deemed acceptable and undergo further evaluation.

6. **Application Evaluation & Approval Process** - Applications deemed compliant by MSRC staff will be forwarded to a Committee of representatives from MSRC, South Coast AQMD and CARB staff. This committee will evaluate applications using criteria previously described in Section I.F.

Following Application evaluation, the MSRC will notify all manufacturer applicants as to the results of the evaluation. Manufacturers whose devices are deemed Pre-Qualified will receive written confirmation from the MSRC. Manufacturers who are not recommended for participation in the Showcase Demonstration Program will receive a written explanation of the evaluation results and Committee member findings and will be offered a formal application debriefing if desired. The MSRC retains sole authority to determine which devices, if any, are deemed Pre-Qualified to participate in the Showcase II Program.

The MSRC and CARB will match Pre-Qualified devices with participating off-road equipment. ***While every effort will be made to match each manufacturer's qualified retrofit device with a participating fleet, the unique attributes of the Showcase Demonstration may result in some devices not being demonstrated. Thus, the MSRC cannot guarantee that every Pre-Qualified device will ultimately participate in the Showcase II Program.***

Manufacturers of Diesel Emission Control Systems Application for Participation in the Showcase Program

MANUFACTURER INFORMATION

A. Identification Information						
Name of Company:						
Name of Primary Contact Person:						
Phone Number:				E-Mail Address:		
Company Mailing Address:						
City:				State:		Zip:
Do you currently have a control strategy verified by any of the following agencies?			ARB <input type="checkbox"/> EPA <input type="checkbox"/> VERT <input type="checkbox"/> Check all that apply			
Is the control strategy for which you are applying verified by any of the following agencies?			ARB <input type="checkbox"/> EPA <input type="checkbox"/> VERT <input type="checkbox"/> Check all that apply			
If verified by CARB, list the Executive Order Number or Control Strategy Family Name						
If verified, describe the engines and applications for which it has been verified						

B. Product Availability

Is the control strategy currently commercially available in California?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Name of distributor:			
Company Location:			
Primary Contact Person:			
Phone Number:			
E-Mail Address:			

C. Technology Type (check all applicable boxes)

DPF <input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> NOx Reduction <input type="checkbox"/>	
If DPF uses catalyst, specify catalyst formulation:	
Filter regenerated on-line?	<input type="checkbox"/>
Filter regenerated off-line?	<input type="checkbox"/>
Number of hours of operation before regeneration required:	
Time required for regeneration:	
Is regeneration dependent on size of unit? YES <input type="checkbox"/> NO <input type="checkbox"/>	
Source of regeneration energy:	
Electricity	<input type="checkbox"/>
Fuel	<input type="checkbox"/>
NOx Control	<input type="checkbox"/> Describe:
FBC	<input type="checkbox"/> Describe:
Other	<input type="checkbox"/> Describe:

D. Previous Experience and Pre-Existing Data

Is your device currently used in any off-road conditions?	If yes, please describe
Do you have any previous data-logging data on off-road applications? If yes, please provide with application.	Yes <input type="checkbox"/> No <input type="checkbox"/>
Do you have existing test data and/or engineering analysis to support anticipated emission reduction/increase claim(s)? If yes, please provide with application.	Yes <input type="checkbox"/> No <input type="checkbox"/>

E. Verification

The intent is to have project participants complete the verification process. Do you intend to pursue CARB verification?	Yes <input type="checkbox"/> No <input type="checkbox"/>
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F. Identification of Emission Control Group	
For what category of engines do you intend to verify/are you verified? Unregulated <input type="checkbox"/> Tier 1 <input type="checkbox"/> Tier 2 <input type="checkbox"/> Tier 3 <input type="checkbox"/> Tier 4i <input type="checkbox"/>	
What horse-power ranges are included in the above categories?	
Identify parameters used in selection of engines	
• Application	
• Engine type	
• Minimum exhaust temperature for proper operation	
• Maximum consecutive minutes operating below minimum exhaust temperature	
• Number of Hours of Operation Before Cleaning of Filter Required	
• Fuel Type	
• Verification Level Sought	
What is the maximum backpressure allowed when the control strategy is in operation?	

G. Commercial Availability

Is control strategy commercially available?
Please provide information on any demonstrated retrofits.

H. Emissions Reduction

What is the anticipated percent reduction from control strategy (from baseline emissions)?					
PM		A. %	NOx (if applicable)		%
What is the potential increase in other pollutant levels from control strategy (percent increase from baseline emissions)?					
NO ₂		%			
NO _x		%			
CO		%			
CO ₂		%			
HC		%			

I. Material and Installation Costs (include sales tax where applicable; note that these are standard costs/ranges, and specific quotes will be sought if a match is contemplated)

Retrofit device	\$
Design cost for installation	\$
Installation cost	\$
Data-logging cost	\$
Fuel cost	\$
Fuel infrastructure cost (if applicable)	\$
Maintenance cost	\$
Will your company be willing to pay for a portion of the material and/or installation cost?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If so, please specify amount:	

J. Vehicle Evaluation

Describe the methods your company uses to evaluate whether a particular vehicle and engine is suitable to be equipped with your device:

K. Technical Support

Your company will be required to provide technical support should problems arise during demonstration/installation. Please list the contact information for the person providing technical support during the test program:	
Name:	
Office Phone:	Mobile:

Devices Participating in Original Showcase Program Application for Participation in the Showcase II Program

For devices qualified under the original Showcase Program which are proposed to be included in Showcase II without modification, manufacturers can complete and submit the following condensed application

MANUFACTURER INFORMATION

A. Identification Information					
Name of Company:					
Name of Primary Contact Person:					
Phone Number:		E-Mail Address:			
Company Mailing Address:					
City:		State:		Zip:	
Device name:					

B. Material and Installation Costs (include sales tax where applicable; note that these are standard costs/ranges, and specific quotes will be sought if a match is contemplated)

Retrofit device	\$
Design cost for installation	\$
Installation cost	\$
Data-logging cost	\$
Fuel cost	\$
Fuel infrastructure cost (if applicable)	\$
Maintenance cost	\$
Will your company be willing to pay for a portion of the material and/or installation cost?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If so, please specify amount:	

C. Technical Support

Your company will be required to provide technical support should problems arise during demonstration/installation. Please list the contact information for the person providing technical support during the test program:

Name:

Office Phone:

Mobile:

D. No Modification

Applicant attests that the specified device was deemed qualified under the original MSRC Showcase Program, and that the device is proposed for participation in Showcase II without modification to the device design or component materials

Signature of Authorized Official

Name:

Title:

Date: _____